

K&F SEQUENZA 10 N/W/B & Flying Frame



User's Manual

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Important Information, Please Read Before Use!

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1. Introduction

Thank you for your decision to buy a KLING & FREITAG sound system. To guarantee a trouble-free operating of the equipment and to allow your KLING & FREITAG Sequenza 10 system to achieve its full potential please read the operating instructions carefully before use. With the purchase of a SEQUENZA 10 system, you have acquired a large sound system with the highest possible quality and performance capabilities. As the owner of a SEQUENZA 10 system, you now have a versatile and highly professional tool which, when operated properly, is a true pleasure to use.

1.1 Symbols in User's Manual



This symbol indicates the possibility of life-threatening danger and a health risk for persons. Not following these instructions may result in serious health problems including potentially fatal injuries.



This symbol indicates a possibly dangerous situation. Not following these instructions may cause minor injuries or cause property damage.



This symbol gives instructions for the proper use of the described products. Not following these instructions may cause malfunctions or property damage.



This symbol indicates notes that help you to handle the described products easier.

1.2 Information about this User's Manual

User's Manual SEQUENZA 10 N and SEQUENZA 10 W in Combination with the SEQUENZA 10 Flying Frame. SEQUENZA 10 NW/SEQUENZA 10 B/SEQUENZA 10

© Kling & Freitag GmbH, 2008, all rights reserved.

All specifications in this manual are based on information available at the time of publishing for the features and safety guidelines of the described products.

Technical specifications, measurements, weights and properties are not guaranteed.

The manufacturer reserves the right to make product alterations within legal provisions as well as changes to improve product quality.

All persons who use the speaker system must have this guide and all further information for safe operations available to them during assembly, disassembly, and use. The speaker system may neither be set up nor used until this manual has been read, understood and kept readily available on site.

We appreciate any input with suggestions and improvements for this manual. Please send this to us at the following address:

info@kling-freitag.de or to:

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2. Scope of Delivery

2.1 Scope of Delivery SEQUENZA 10 N/W

- Full-range loudspeaker with integraten 'Snap&Fly' Rigging System incl. Quick Release Pins (usable with SEQUENZA 10 Flying Frame only)
- User's Manual

2.2 Scope of Delivery SEQUENZA 10 B

- Subwoofer with integraten Rigging System incl. Quick Release Pins (usable with SEQUENZA 10 Flying Frame only)
- User's Manual

2.3 Scope of Delivery SEQUENZA 10 Flying Frame

- Flying frame to hang and stack SEQUENZA 10 N/W speakers incl. Quick Release Pins SEQUENZA 10
- 2 x 3.25t shackles (for optional safety chain)
- User's Manual
- Calculation software CON:SEQUENZA CON:SEQUENZA

The following material is optionally available for flying the flying frame:

- 3 level-adjustable hinged heavy-duty feet (mandatory for stacking speakers)
- 2 x 3.25t shackle for load adapter
- 2-strand safety chain: 2 x 8mm steel chain / Grade 8 / Length 380mm per strand (Working load limit (WLL) BGV C1: 1250 kg) with 2 x hooks DIN 5691 WLL BGV C1: 1250 kg) / Rigging link shape A according to DIN 56882 (WLL BGV C1: 1750 kg)

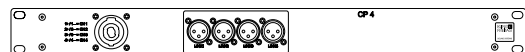
3. Required Tools

For the optionally available hinged heavy-duty feet of the SEQUENZA 10 flying frame:

- 24 mm open-end wrench
- 17 mm open-end wrench

4. System Requirements for Use

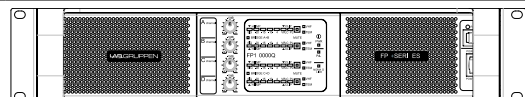
Connector Panel CP 4



K&F CD 44 Digital System Controller



LAB.GRUPPEN FP 10000Q:

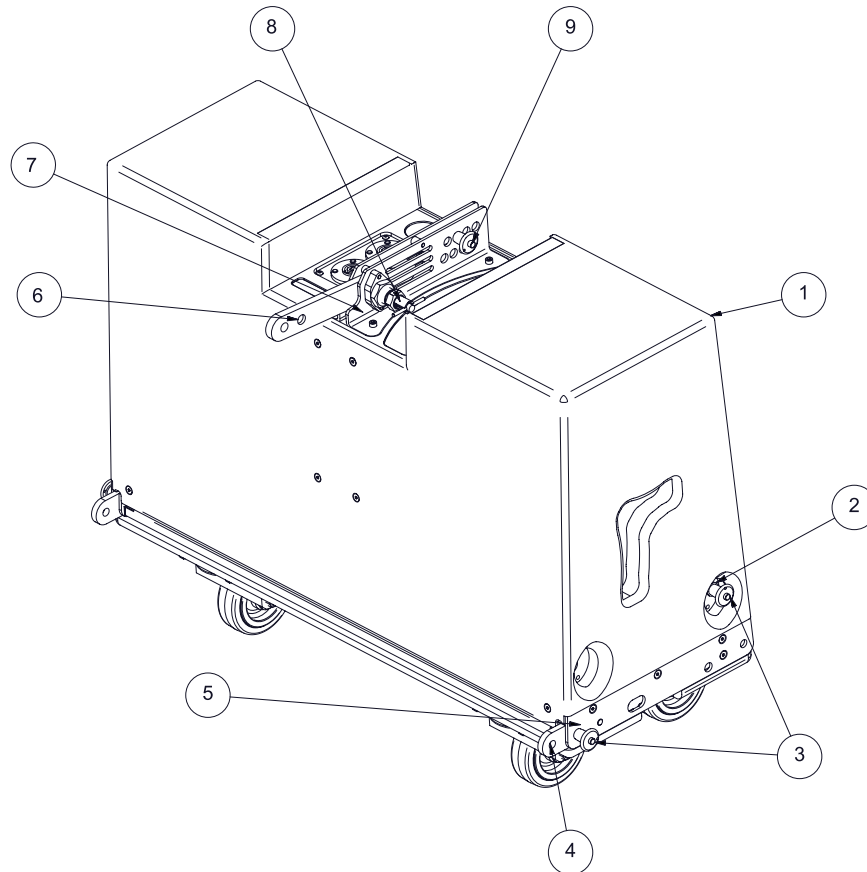


These components will be referred to as 'K&F SystemRack' in this manual.

5. Product Description

5.1 SEQUENZA 10 N/W

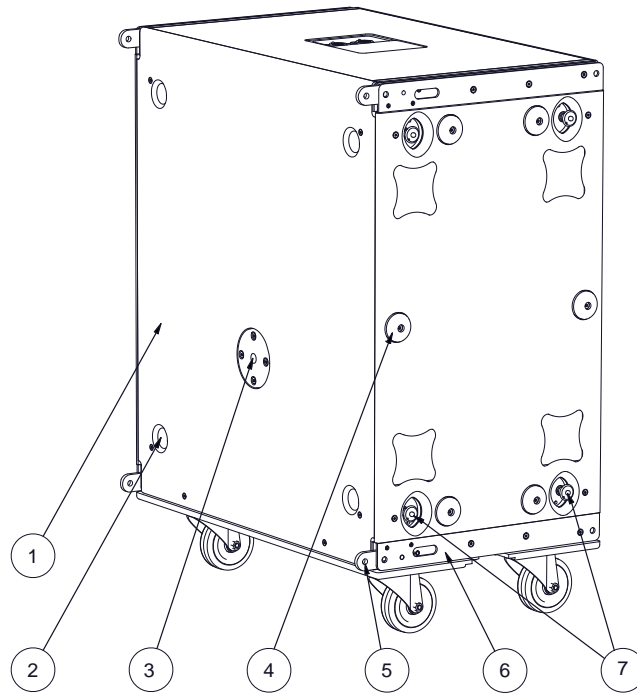
5.1.1 Overview SEQUENZA 10 N/W Parts



1. speaker enclosure
2. Park position Quick Release Pins
3. Quick Release Pins front
4. front joint plates
5. front connector bracket
6. rear joint plate
7. rear connector bracket
8. spring bolt
9. Quick Release Pin rear

5.2 SEQUENZA 10 B

5.2.1 Overview SEQUENZA 10 B Parts

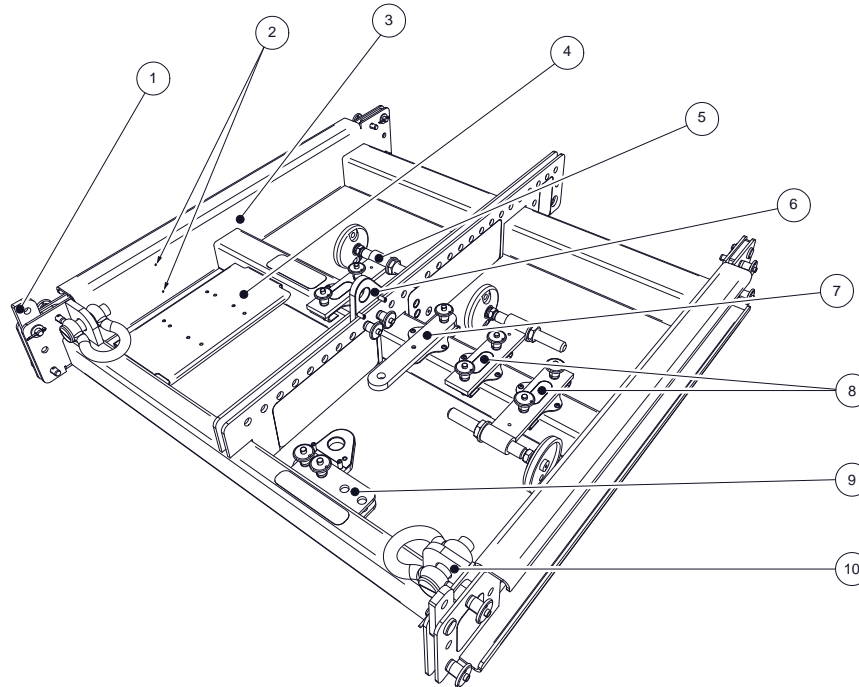


1. speaker enclosure
2. Stacking grooves / cover, adjacent: stacking feet / bottom
3. Threaded stand flange
4. Stacking feet / side, adjacent: stacking grooves / side
5. joint plates
6. connector brackets
7. Quick Release Pins in park position

5.3 SEQUENZA 10 flying frame

This flying frame was designed to fly or stack the KLING & FREITAG speakers SEQUENZA 10 N/W. SEQUENZA 10

5.3.1 Overview of flying frame Components



1. hinge fitting
2. fixing point for Rieker inclinometer
3. SEQUENZA 10 flying frame
4. fixing plate for SSE inclinometer
5. Hinged heavy-duty feet rear (optional)
6. load adapter
7. stacking link
8. Hinged heavy-duty feet front (optional)
9. park position for load adapter
10. fixing points for safety chain

6. Safety Instructions



Warning

The information described here does not relieve the user of the duty to follow the given safety requirements and legal regulations.

The technicians responsible for assembling the flying frame on site are responsible for the safe setup and use of the flying frame and guarantee this.

To prevent damage to persons and property, you must set up or suspend the array in compliance with the specifications of the German safety regulation BGV C1 or comparable applicable national standards.

At least 2 people are necessary to set up the array.

The flying frame is solely for professional use and only for the suspension of the KLING & FREITAG speaker models SEQUENZA 10 N, SEQUENZA 10 W, SEQUENZA 10 B in the manner described here.

If the simulation software CON:SEQUENZA displays "Load-Failed", the array may not be set up in the configuration simulated in the software. CON:SEQUENZA

When laying out the connecting cables, make sure that nobody can trip.

If not otherwise stated in this manual, only original KLING & FREITAG parts may be used for mounting the speakers. The use of other parts - in particular parts by other manufacturers - is not permitted.

For mobile and fixed installations, use only assembly equipment from KLING & FREITAG.

As a basic principle, you must visually inspect all components of the array before every use. For fixed installations, you must inspect all components of the rigging system for signs of wear at regular intervals. The visual inspection includes checking the components of the speakers, the flying frame, the load-bearing parts (cross beams, ceiling constructions, etc.) and their bolted connections. When inspecting components of the flying frame, pay special attention to any deformations, cracks, damage to threads, and corrosion as well as the functional capability of the Quick Release Pins and the functional capability of the spring bolts. Mounting devices such as shackles, chains and wire ropes also have to be checked for signs of wear or deformation carefully. If there are signs of wear, cracks, or deformation, etc. then you must replace the parts immediately. For further instructions, refer to chapter "Maintenance and Care" on page 45.

6.1 Safety Instructions for Flown Setup



Warning

Falling speakers pose the threat of fatal injuries to people near them!

If you have even the slightest reason to doubt the safety of the rigging system, then you may not use it under any circumstance.

Only trained event technicians may suspend the flying frame.

Never suspend the speakers without the appropriate flying frame.

The maximum working load limit (**WLL**) of the flying frame is – depending on the selected load bearing drillings and types of speakers – **625 kg - 1000 kg**.

This specification includes cabling and additional fittings. The provided simulation software 'CON:SEQUENZA' must be used to determine if the frame is loaded permissibly. The simulation software CON:SEQUENZA does not take the weight of cabling and additional fittings into consideration! When following the specifications of the CON:SEQUENZA calculation software, consider this additional weight and reduce the number of speakers accordingly.

If the simulation software does not confirm the compliance with DIN 18 800, the array may not be assembled in the simulated setup.

**Warning**

If the simulation software CON:SEQUENZA does not confirm the compliance with BGV C1, no one may be situated in this area between the assembly and disassembly – not even those involved in assembly and disassembly. You must effectively block off this area and secure it from trespassing.

The following arrays (maximum configurations) fulfil the stipulations of the BGV C1 with their given design:

Maximum number of flown speakers:

- **SEQUENZA 10 N and SEQUENZA 10 W:**
Arrays of up to 13 speakers **and** a flying frame inclination less than +/- 4°.
- **SEQUENZA 10 B:**
Arrays of up to 12 speakers.
- **SEQUENZA 10 N/W combined with SEQUENZA 10 B:**
For combined arrays consisting of SEQUENZA 10 N/W and SEQUENZA 10 B, a special verification with the CON:SEQUENZA simulation software is mandatory.

If these angles or the number of speakers is exceeded, it is mandatory that you separately verify the array with the CON:SEQUENZA simulation software. CON:SEQUENZA

Ensure that all connections are secured against coming loose and that only authorized, statically tested and correctly sized supports, mounting equipment, wire ropes and chains are used.

Follow the relevant specified safety factors. The safety factors (SF) are stated on the back of the speakers and they comply with the BGV C1. Be sure to follow the relevant national specifications, norms, and safety regulations.

Note that every suspension point as well as the supporting structure of the building (i.e. ceiling points, cross beams and stage or PA tower, etc.) must be capable of carrying the total load of the system (including cabling and additional fittings).

Note that the suspension points on the hall ceiling (i.e. shackles, suspension points, or chain points) must comply with the accident prevention regulation BGV C1 (Event and Production Sites for Stage Presentations) or comparable applicable national standards, and the total load must be approved by an authorised expert. If in doubt, have it checked by local authorities.

Also, follow the operating and safety instructions for the product from which you will suspend the flying frame (i.e. truss). If there is no information regarding the safe use and the working load limit, you may not fly the flying frame from it.

Every chain and every motor must be capable of carrying the total load of the array on its own, even with two-strand rigging. Check to make sure that the chains of the hoist motors are hanging straight down and are not twisted and that the hoist motors are in the intended positions.

When operating with chain hoists that do not comply with the BGV C1 or the D8+, no one may be present in the danger zone underneath or near the speaker array.

Secure the array from falling with a second independent safety fitting if no BGV C1 or D8+ motor is used.

Never use signal cables or power cords for suspending, aligning or securing the systems. When laying out the connecting cables, make sure that nobody can trip.

Make sure you have enough free working space on site to assemble and suspend the array.

The array can swing out while being lifted!

Only personnel directly involved with assembly or disassembly may be in the working area. Every time before the responsible technician raises or lowers the flying frame, he must unmistakably signal this to all people. All persons must then move outside of the pivoting and lifting range.

The flying frame may not be used to lift and secure people or objects other than the above-mentioned speaker systems.

The array may not be used as a climbing aid.

The safe use of the flying frame and the speakers also depends on the various factors present at the area of use. Weather conditions such as wind or rain, for example, can compromise the safety of the flying frame and speakers. Always consider and evaluate these factors. (See chapter "Wind Loading" on page 14.)

6.2 Safety Instructions for Stacked Setups



Warning

Falling speakers pose the threat of fatal injuries to people near them!

Be sure to follow the relevant national specifications, norms, and safety regulations.

Always make sure that a sufficient safety level is still given, even when outside forces have an additional impact on the stacked speakers. Before setup, carefully ascertain if there are any possible outside forces that could result in the array falling over. (Slant of the ground / the bearing capacity of the ground / wind / person or vehicle impact, etc.). A technical expert who is responsible for the setup must evaluate and determine necessary measures (including calculating the statics). If necessary, obtain expert proof of stability.

For the standard safety inspection, you must always factor in an imperfection (tilt) of $\pm 5^\circ$ and destabilising loads. A planned tilt of the flying frame is not permissible. In calculations, the tilted setup serves the purpose of levelling out unevenness.

With the set-up systems for which you cannot verify the structural safety without safeguards, you must secure them to prevent sliding or tipping in order to provide proof of this safety. To secure the system from tipping over, use water tanks or floor bolts. Other possible measures include strapping it to a suitable substructure or tying it using safety straps. The simulation in the CON:SEQUENZA software is not valid as a verification of structural safety. This software always states that you must secure stacked speakers to prevent their falling over.

For outdoor and trade fair venues in which wind loads must be considered, additional proof of stability is necessary.

Only stack the SEQUENZA 10 N/W systems in conjunction with the SEQUENZA 10 flying frame and the optionally available SEQUENZA 10 Ground Stack Kit (stacking feet), which is intended to be used. Stacking of SEQUENZA 10 N/W without the optional feet is not permissible!

Make sure that the stacking feet of subwoofers stacked on top of one another are securely positioned in the grooves of the lower speaker.

Maximum number of stacked speakers (Valid for indoor operations without wind, with a person impact of 10 kg at a height of 1.5 m and a flying frame tilt of 5°):

- **SEQUENZA 10 N and SEQUENZA 10 W:**
arrays with up to 7 x SEQUENZA 10 N/W. To fixate the system to the floor, you can use the openings in the optional stacking feet (SEQUENZA 10 Ground Stack Kit).
- **SEQUENZA 10 B flat:**
Arrays with up to 6 x SEQUENZA 10 B
- **SEQUENZA 10 B vertical:**
Arrays with up to 2 x SEQUENZA 10 B. You must additionally secure vertically standing stacked SEQUENZA 10 B systems from falling since the structural safety is not guaranteed, otherwise. Possible measures include strapping them to a suitable substructure or tying them using safety straps.
- **SEQUENZA 10 N/W combined with SEQUENZA 10 B**
arrays with up to 7 x SEQUENZA 10 N/W on 6 x SEQUENZA 10 B.

SEQUENZA 10 B

If you are stacking a K&F top with feet (i.e. Line 212) on top of a SEQUENZA 10 B subwoofer that is placed on its side, make sure that the Quick Release Pins have not been damaged in their stand-by positions.

You must always strap such setups to one another and secure them from falling over.

6.3 Wind Loading

For open air events, obtain current local wind and weather data. The following chart provides a preliminary indication

Bft	m/s	Windspeed	Description
0	0-0.2	Calm	Smoke rises vertically
1	0.3-1.5	Light air	Smoke drift indicates wind direction, vanes do not move
2	1.6-3.3	Light	Wind felt on face, vanes begin to move
3	3.4-5.4	Gentle	Leaves, small twigs in constant motion, light flags extended
4	5.5-7.9	Moderate	Dust, leaves, and loose paper raised up, small branches move
5	8.0-10.7	Fresh	Small trees in leaf begin to sway, whitecaps on lakes visible
6	10.8-13.8	Strong	Larger branches of trees in motion; whistling heard in wires
7	13.9-17.1	Near gale	Whole trees in motion; resistance felt in walking against wind
8	17.2-20.7	Gale	Twigs and small branches broken off trees



Warning

For outdoor uses, we recommend using at least a BGV D8+ hoisting device to avoid wind causing the release of the secondary safety device.

If wind speeds higher than Beaufort 5 are expected, you must constantly consider the wind speed and its possible influence on the array as well as the fact that the wind speed increases the higher the array is.

With expected wind speeds exceeding Beaufort 5, construct the rigging and safety points so that they can carry at least twice the static load.

With wind speeds exceeding Beaufort 6 (14 m/sec.), arrays are not recommended.

As of a wind speed of Beaufort 6, you must clear the area under the speakers. Effectively prevent the arrays from swaying in the wind by tying them off or using a lateral fixation. If the suspended load sways, it can create significant inertial force that can result in the PA tower structurally collapsing or tipping.

With wind speeds of Beaufort 8 or more, you must lower and disassemble the array.

**Caution**

6.4 Protecting the Speakers / Operating Safety

SEQUENZA 10 speakers may only be used in combination with a K&F SystemRack. See chapter [System Requirements for Use] on page 7.

In general, audio signals should not be overdriven. This may be caused by mixing consoles, equalizers, effect equipment, etc. and should be indicated on this equipment. When a power amplifier is overloaded at the output (clipping), then the amplifier activates a clipping warning signal. In any case, the signal must be reduced as soon as it sounds unnaturally distorted.

For damage caused by

- overloading the speakers
- The rear-facing subwoofer is controlled using the Controller CD 44 via LSBlock for cardioid / hypercardioid arrays for rear-emitting subwoofers. The front-facing subwoofers are controlled via LSBlock for cardioid / hypercardioid arrays for front-emitting subwoofers.

we do not assume warranty and excludes liability for possible consequential damage.

The following signals may damage the speakers:

- permanent high-level signals with high frequency and continuous noise from feedback.
- permanently distorted high-level signals.
- noises, which occur when the amplifier is on while equipment is being connected, disconnected or switched on.

Do not install devices in any of the following places:

- where the devices are permanently exposed to direct sunlight.
- where the devices are exposed to high moisture or rain.
- where the devices are exposed to strong vibrations and dust.

Damage caused by the speakers' magnetic fields

Speakers are permanently surrounded by a magnetic field, even when they are not connected. Therefore, during transport and placement of the speakers, it is important to ensure that there is always approx. 1 m between the speakers and magnetic data media and computer/video monitors.

Preventing hearing damage

Avoid being too close to operating speakers. Even loudness levels of approx. 90 dB - that you subjectively judge as being low - can lead to hearing damage.

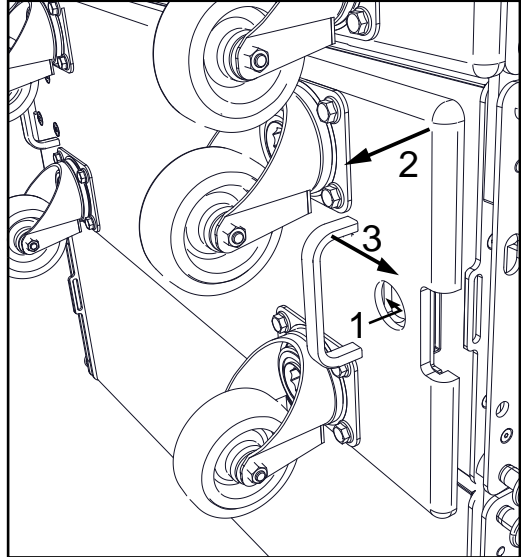
7. Using the Quick Release Pins

The Quick Release Pins are equipped with retaining balls. By pushing the button in the middle of the pin, you can release these balls and then insert or remove the pin. As long as you do not push the button in the middle of the pin, you should not be able to pull out the pin.

8. Removing the Transport Covers

In order to remove the transport cover, push the latch in the round opening towards the middle of the transport cover **(1)**, slightly pull the transport cover on the side of the latch toward you **(2)**, and remove the cover to the side **(3)**.

When doing this, do not pull the transport cover towards you too much, as this could cause the catch on the other side of the cover to bend.



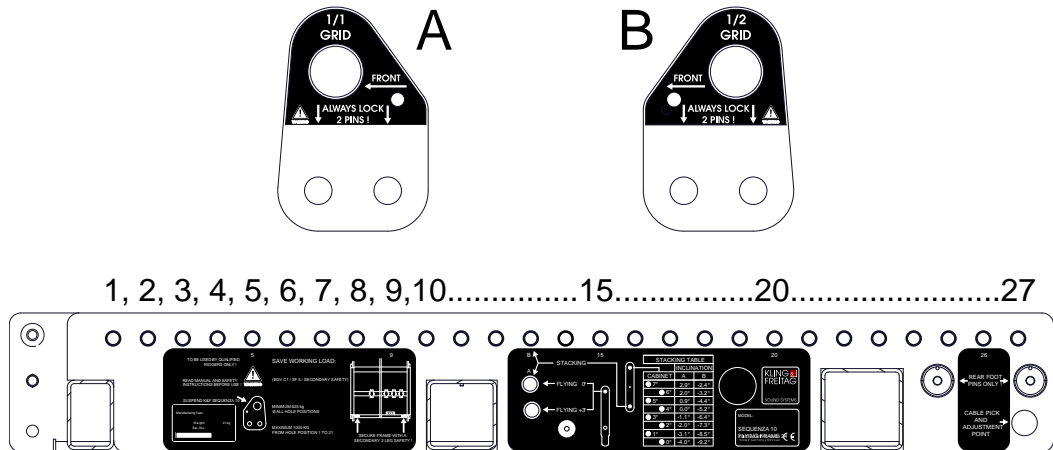
9. Positioning of the Load Adapters

You can calculate one- and two-strand riggings with the simulation software CON:SEQUENZA. For one-strand rigging, use one load adapter; for two-strand rigging, use two load adapters.

The drill holes on the flying frame where the load adapters are to be attached are determined by the simulation software CON:SEQUENZA. CON:SEQUENZA You will find the specifications on the relevant calculation printouts. The specification of the drill hole in the simulation software refers to the drill hole in the load adapter that is facing the front side of the frame. The front side of the frame is marked with a sticker (Front).

The drill holes in the flying frame are numbered consecutively from 1 to 27, beginning on the front end of the frame (Front). For your orientation, the drill holes 5, 9, 15, 20, and 26 are labelled.

You can set the position of the load adapters in 1/2-steps because they are usable on both sides. This doubles the grid of the row of drill holes in the flying frame and thus the adjustment possibilities. The load adapters are labelled with '1/1 Grid' on the one side and '1/2 Grid' on the other. The simulation software CON:SEQUENZA gives you the information whether a load adapter should be mounted in the 1/1 or the 1/2 position. In the 1/1 position **(A)**, the arrow on the 1/1 side of the load adapter must point toward the front side of the flying frame (Front). In the 1/2 position **(B)**, the arrow on the 1/2 side of the load adapter must point toward the front side of the flying frame (Front).



A = Load adapter 1/1 grid position

B = Load adapter 1/2 grid position



Instructions for mounting the load adapter

Calculate the correct position of load adapters with the simulation software CON:SEQUENZA. CON:SEQUENZA In this position, the array is guaranteed to fly at the desired angle later, and the sound will be emitted correctly.

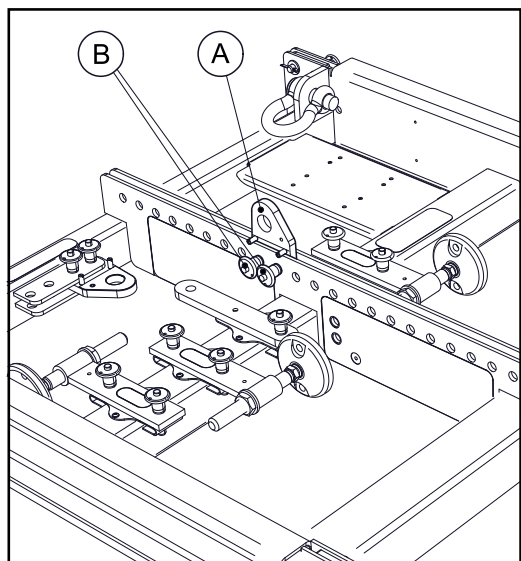


Always mount a load adapter with 2 Quick Release Pins!

Take the load adapter **(A)** out of the stand-by position and place it on the hole position that was determined by the simulation software CON:SEQUENZA.

Mount the load adapter with 2 Quick Release Pins **(A)**.

With a two-strand rigging, proceed with the second load adapter accordingly.



10. Flown Setup

10.1 Combining the Speaker Array

10.1.1 Array with SEQUENZA 10 N/W

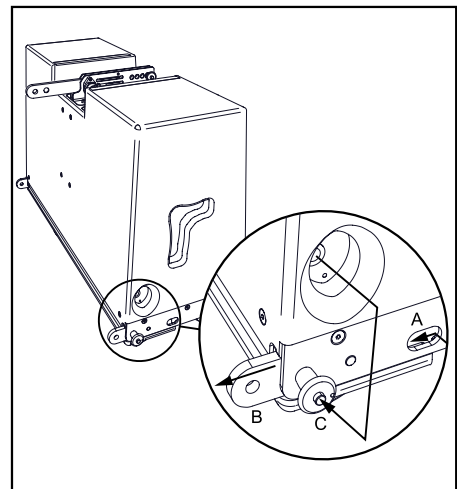
The splay angles of the individual speakers are determined by the simulation software CON:SEQUENZA. CON:SEQUENZA You will find the specifications on the relevant calculation printouts. On the rear joint plate of the speakers, there are drill holes with the corresponding angles marked.

During setup, check **every** Quick Release Pin to ensure that it is locked in place by pulling it outwards!

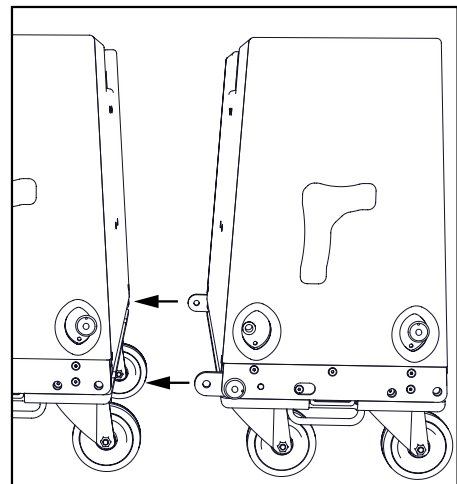


1. Slide the front joint plates out of the speaker by reaching into the access opening **(A)** and pushing the joint plate forwards.

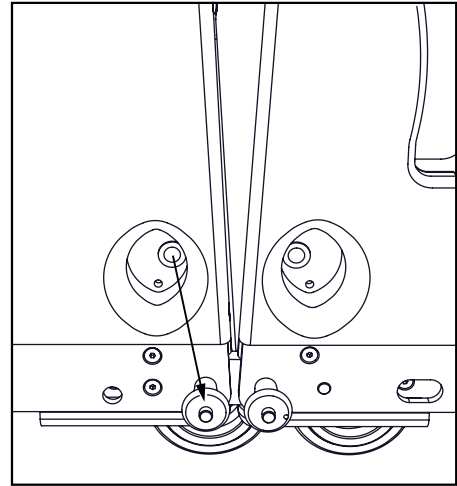
Secure the joint plates **(B)** with the Quick Release Pins **(C)**.



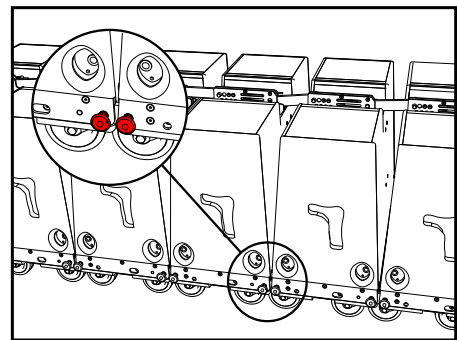
2. Slide the speakers together so that the joint plates protrude into the front connecting bracket.



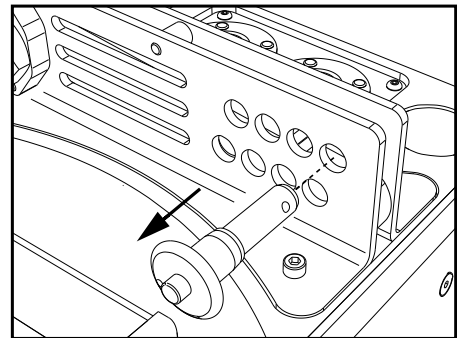
3. Secure the connection with the Quick Release Pins.
Make sure all pins fit correctly and are locked into place.



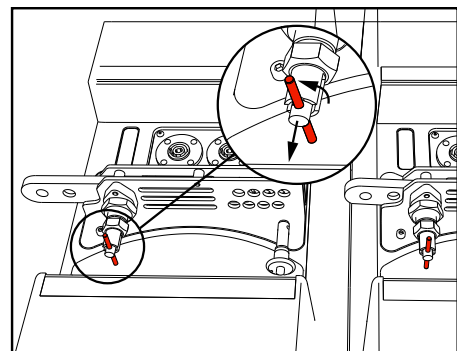
4. Proceed accordingly with all speakers in the array.



5. Pull the rear Quick Release Pins of all speakers out of the stand-by position.

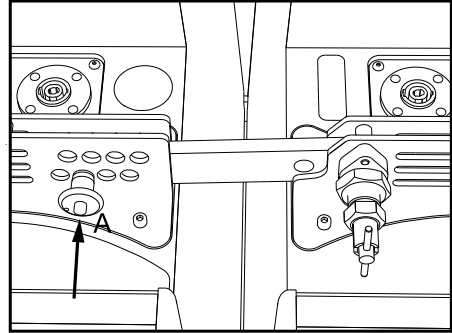


6. Pull out the spring bolts of all speakers and turn them by 90° to a vertical position (open).



7. Align the drill hole in the joint plate with the drill hole that is marked with the desired angle.

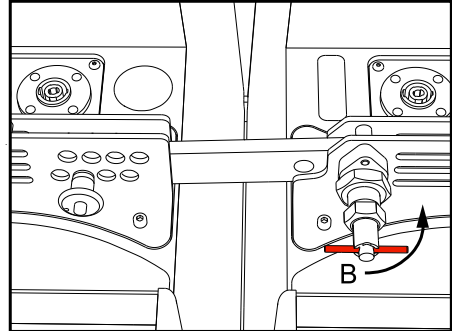
Connect them using the Quick Release Pin **(A)** and make sure the pin fits correctly and is locked into place.



8. **Arrays with a maximal length of 5m (corresponding to an array with max. 16 x SEQUENZA 10 N/W incl. flying frame):**

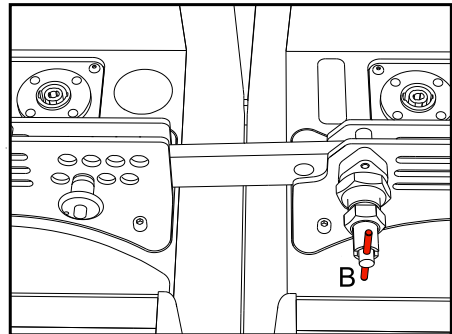
Turn **all** spring bolts **(B)** by 90° to a horizontal position (closed), so that they snap into the guide slot of the spring bolt enclosure.

The spring bolts have not yet snapped into the drill hole of the rear joint plate. The spring bolts, however, are all set so that they automatically snap into place when you fly the array, then creating a positive connection with the selected angle position.

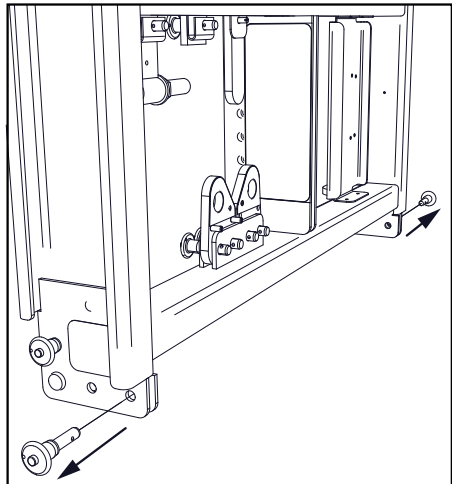


Arrays with a length exceeding 5m (corresponding to an array with more than 16 x SEQUENZA 10 N/W incl. flying frame):

Leave the spring bolts **(B)** in the vertical position.



9. Stand the flying frame up vertically and remove the Quick Release Pins



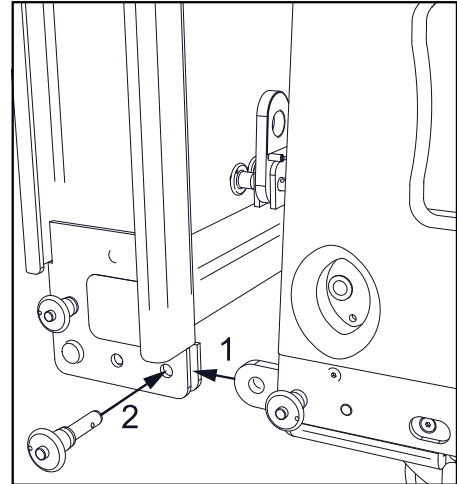


10. Tipping of the flying frame with speakers can result in injuries. To prevent the frame from tipping forward with the first speaker, always connect the speakers to one another first before connecting the flying frame.

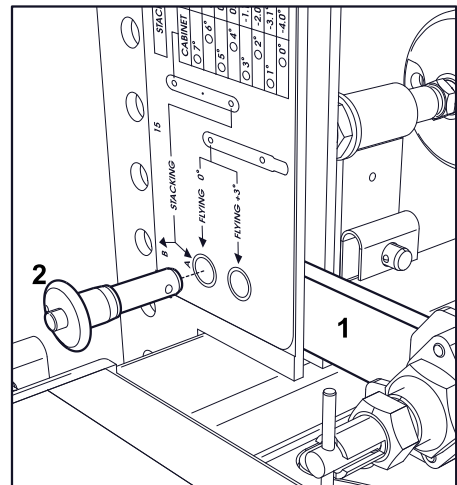
To prevent the frame from tipping forward with the first speaker, let the spring bolts of the first two speakers snap into place before connecting the flying frame.

To do so, you must position the spring bolt of the second speaker horizontally and you may need to tilt the speaker slightly until the spring bolt snaps into place.

11. Place the frame in front of the top speaker so that all joint plates **(1)** protrude into the frame, then connect them using the Quick Release Pins **(2)**.

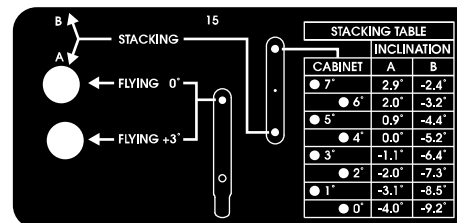


12. Insert the rear joint plate **(1)** of the top speaker between the drill holes for the desired angle, and secure it with the Quick Release Pin **(2)**.
The tilt angle of the speakers relative to the flying frame is determined by the simulation software CON:SEQUENZA.



To fly the top speaker parallel (0°) to the flying frame, use the drill hole 'Flying 0° ' (see illustration).

To tilt the top speaker upwards by $+3^\circ$, use the 'Flying $+3^\circ$ ' hole (see illustration).



13. Wire the speakers. Further information in chapter "Wiring" on page 42.

Please find more detailed information for wiring the SEQUENZA 10 speaker and configuring the CD 44 in the hardware user's manual for the CD 44.

14. Proceed as described in chapter [Lifting the Array] as of page 26.

10.1.2 Array with SEQUENZA 10 B

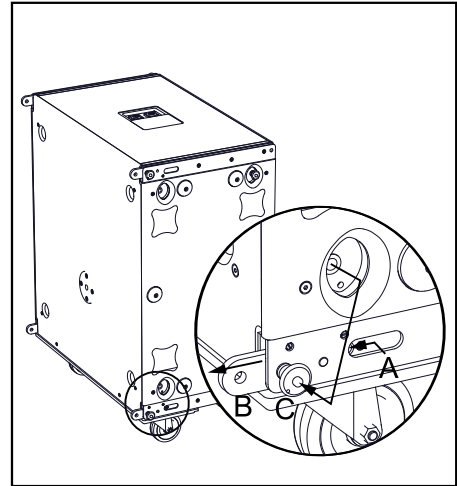


During setup, check **every** Quick Release Pin to ensure that it is locked in place by pulling it outwards! As long as you do not push the button in the middle of the pin, you should not be able to pull out the pin.

You may fly up to max. 12 SEQUENZA 10 B on the flying frame.

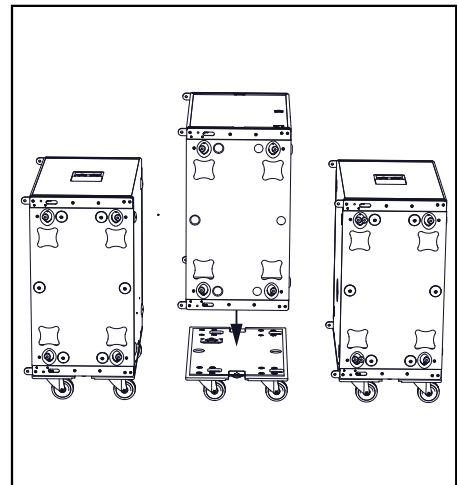
Connect the speakers as follows:

1. Slide the 4 joint plates out of the speaker by reaching into the access opening **(A)** and pushing the plates forwards. Secure the joint plates **(B)** with the Quick Release Pins **(C)**.

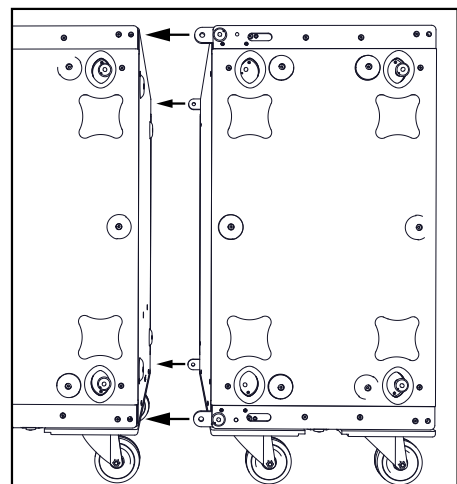


2. If you are planning a cardioid or hypercardioid use, lay the middle one of the 3 sub-woofers with its rear side onto the wheel board before you connect the speakers

Further instructions for cardioide or hypercardioide uses beginning on page 38.

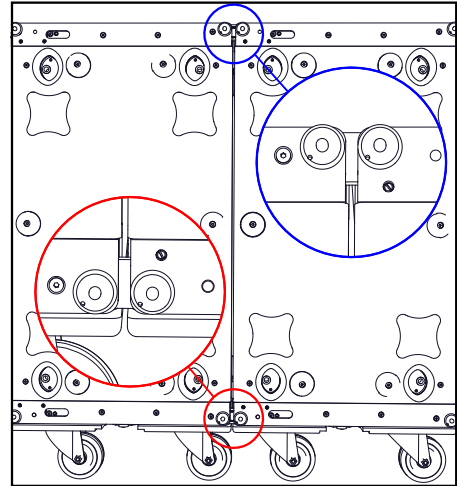


Push the speakers together so that the 4 joint plates of the one speaker protrude into the corresponding connecting bracket of the other speaker.

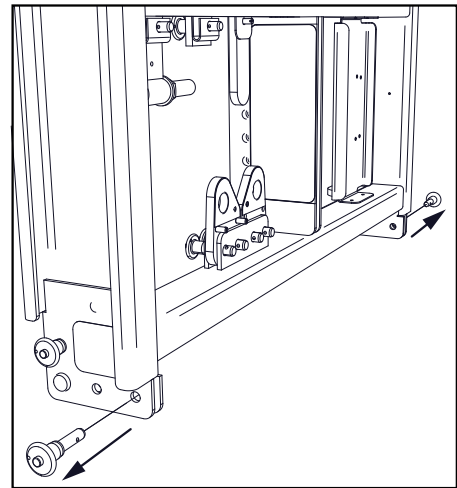


3. Connect the speakers, as illustrated, on both sides with the Quick Release Pins. You create a speaker connection by using a total of 8 Quick Release Pins.

Make sure all pins fit correctly and are locked into place.



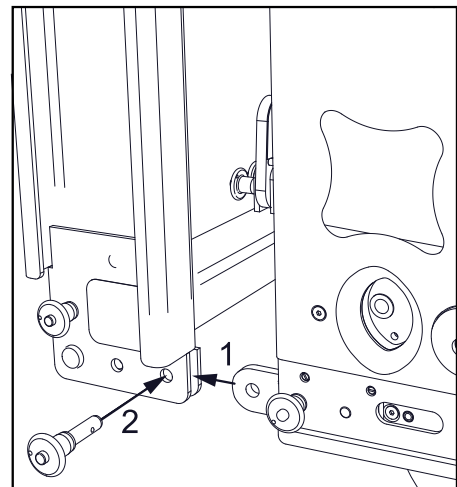
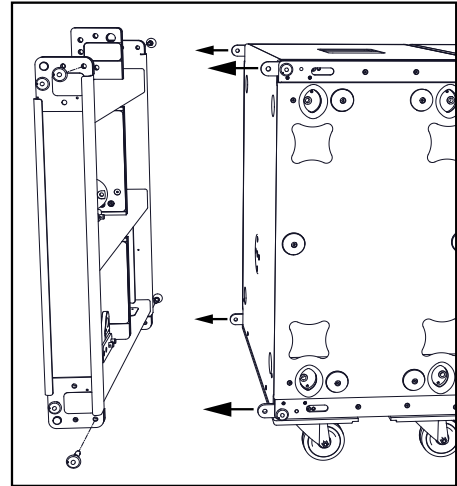
4. Proceed accordingly with all speakers in the array.
5. Stand the flying frame up vertically and remove the Quick Release Pins



6. To prevent the frame from tipping forward with the first speaker, always connect the speakers to one another first before connecting the flying frame. Tipping of the flying frame with speakers can result in injuries.



7. Place the frame in front of the top speaker so that the joint plates **(1)** protrude into the flying frame, then connect them using the Quick Release Pins **(2)**.



8. Wire the speakers. Further information in chapter "Wiring" on page 42.

Please find more detailed information for wiring the SEQUENZA 10 speaker and configuring the CD 44 in the hardware user's manual for the CD 44. SEQUENZA 10

9. Proceed as described in chapter [Lifting the Array] as of page 26.

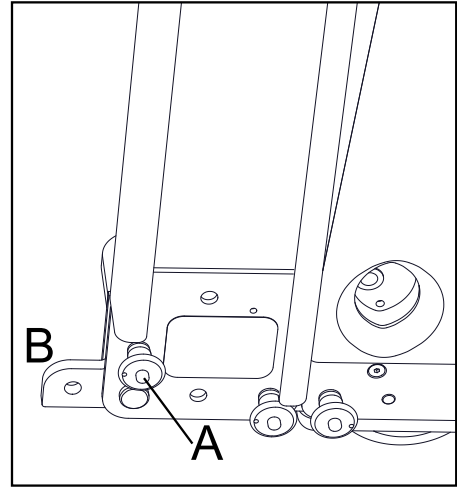
10.1.3 Array with SEQUENZA 10 N/W and SEQUENZA 10 B

1. Create an array with SEQUENZA 10 N/W, see chapter [Array with SEQUENZA 10 N/W] as of page 18.
2. Create an array with SEQUENZA 10 B, see chapter [Array with SEQUENZA 10 B] as of page 22.

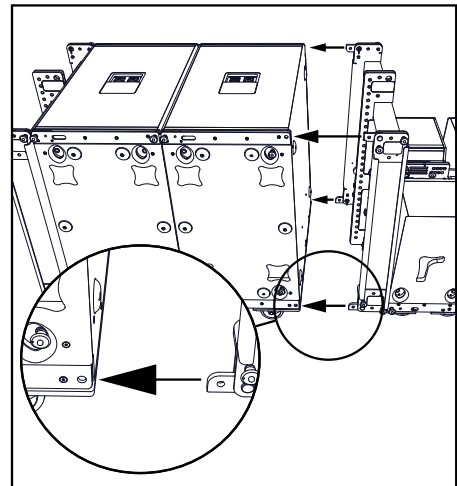
3. Remove the 4 Quick Release Pins **(A)** on the flying frame of the SEQUENZA 10 N/W array and turn out the 4 angled joint plates **(B)**, as illustrated.

Secure the angled joint plate **(B)** with the Quick Release Pin **(A)** in this position.

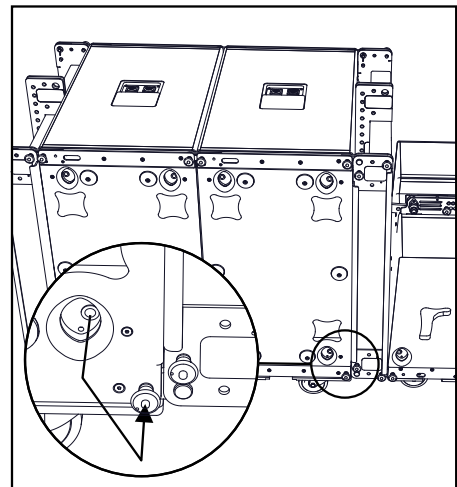
Proceed accordingly with the 3 remaining angled joint plates of the flying frame.



4. Push the SEQUENZA 10 N/W array and the SEQUENZA 10 B array together so that all 4 angled joint plates of the flying frame protrude into the connecting brackets of the lower SEQUENZA 10 B system.



5. Secure all 4 angled joint plates with the remaining Quick Release Pins on the bottom SEQUENZA 10 B system.



6. Wire the speakers. Further information in chapter "Wiring" on page 42. Please find more detailed information for wiring the SEQUENZA 10 speaker and configuring the CD 44 in the hardware user's manual for the CD 44. SEQUENZA 10

7. Proceed as described in chapter [Lifting the Array] as of page 26.

10.2 Lifting the Array

See the instructions in chapter [Safety Instructions] from page 11 and in the corresponding sub-section [Safety Instructions for Flown Setup] from page 11.



10.2.1 Arrays with SEQUENZA 10 B

This description is valid for a maximum of 12 SEQUENZA 10 B systems connected to one another. More than 12 SEQUENZA 10 B systems connected to one another may not be flown.

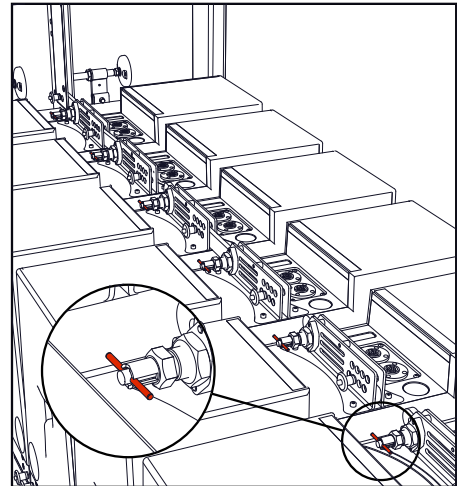
1. Attach a certified 3.25 ton shackle for every speaker used.
Secure the shackles against self-loosening (i.e. split pin).
2. Hook the load hook of the hoist chain (i.e. of the hoist motor) into the load adapter's shackle and begin to lift the array carefully.
3. When the first speakers are at working height, remove the front transport covers.
4. Lift the array evenly and slowly into its operating position so that it cannot swing out during lifting, then secure it. In doing this, make sure that chain hoists and lifting accessories do not get caught. Make sure that the speaker cables do not get crimped or get caught.

10.2.2 Arrays with SEQUENZA 10 N/W and 5m maximal Length

This description is valid for arrays that only consist of SEQUENZA 10 N/W systems as well as for mixed arrays of SEQUENZA 10 N/W and SEQUENZA 10 B whose total length does not exceed 5m. (An array with 16 x SEQUENZA 10 N/W corresponds to a length of 5m).

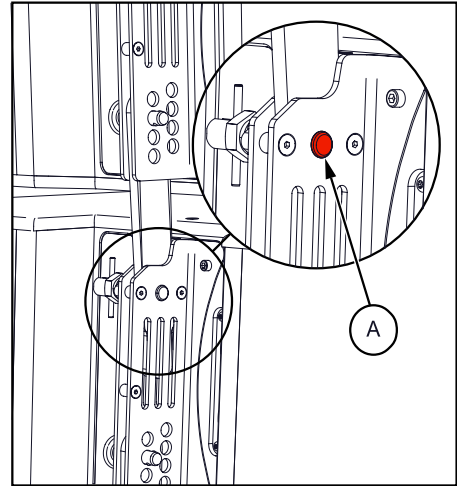
1. Attach a certified 3.25 ton shackle for every speaker used.
Secure the shackles against self-loosening (i.e. split pin).

2. Verify that every spring bolt of the SEQUENZA 10 N/W are in a horizontal position (closed), so that they can lock into place when lifting the array.



3. Hook the load hook of the hoist chain (i.e. of the hoist motor) into the load adapter's shackle and begin to lift the array carefully.

4. Verify that **every** spring bolt locks into place. When the spring bolts snap into place, they make a clearly audible noise and protrude out of the drill hole on the opposite side.



5. Check that the spring bolts protrude at least 0.5 mm out of the drill holes at the entire circumference **(A)**.

During lifting, the spring bolts snap into place successively from the flying frame downwards.

If the spring bolts do not properly snap into place, do not hoist the array any further until you have corrected the error.



6. When the first speakers are at working height, remove the front transport covers.
7. When the first SEQUENZA 10 NW speakers are at working height, you can attach the protective weather covers for this speaker model, if necessary.

For outside uses, these optional protective weather covers with hook-and-loop fastener serve as rain protection for the rear flying mechanics and the cable connections.

8. Lift the array evenly and slowly into its operating position so that it cannot swing out during lifting, then secure it. In doing this, make sure that chain hoists and lifting accessories do not get caught. Make sure that the speaker cables do not get crimped or get caught.

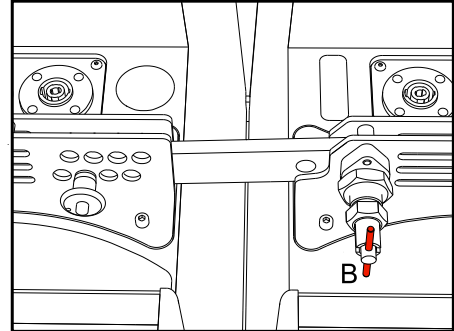
10.2.3 Arrays with SEQUENZA 10 N/W exceeding a Length of 5m

This description is valid for arrays that only consist of SEQUENZA 10 N/W systems as well as for mixed arrays of SEQUENZA 10 N/W and SEQUENZA 10 B whose total length exceeds 5m. (An array with 16 x SEQUENZA 10 N/W corresponds to a length of 5m).

1. Attach a certified 3.25 ton shackle for every speaker used.

Secure the shackles against self-loosening (i.e. split pin).

2. When connecting the SEQUENZA 10 N/W systems, leave the spring bolts in a vertical position so that they cannot snap into place during lifting.

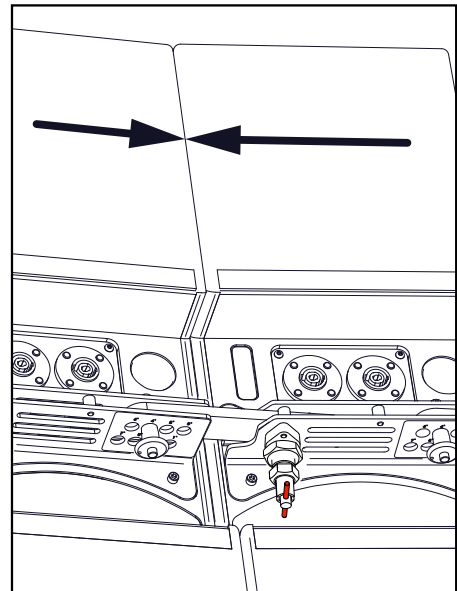


Risk of crushing hands!

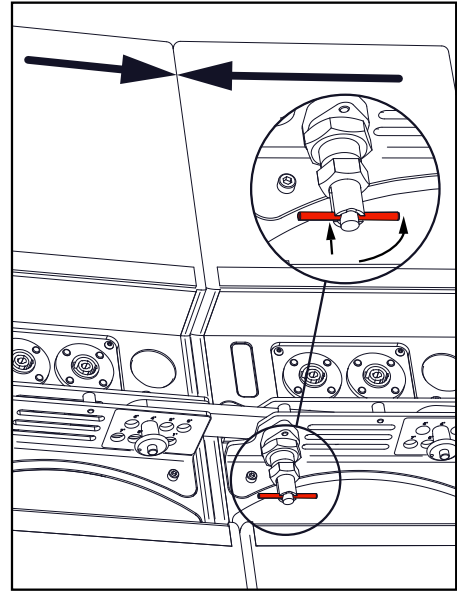
The speakers move towards each other during lifting.



3. Hook the load hook of the hoist chain (i.e. of the hoist motor) into the load adapter's shackle and begin to lift the array carefully.
4. Lift the array up far enough so that the first speaker enclosures begin to touch each other. SEQUENZA 10 N/W

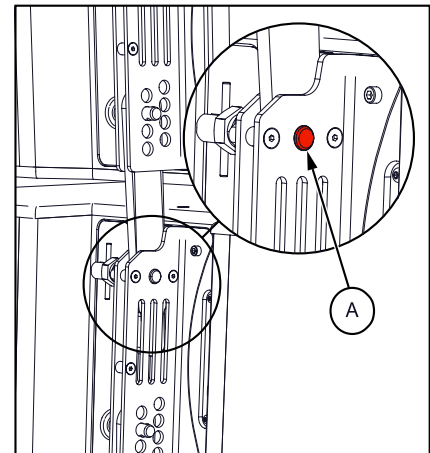


5. Position each spring bolt horizontally when the corresponding speakers touch each other during lifting.



The spring bolts do not snap into place until the speaker enclosures begin to move apart again and the preselected angle position is reached. It is possible that this will happen when the array is relatively high.

6. Check that the spring bolts protrude at least 0.5 mm out of the drill holes at the entire circumference **(A)**.



Warning

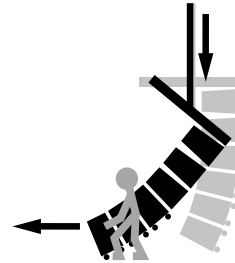
7. When the first speakers are at working height, remove the front transport covers.
8. When the first SEQUENZA 10 N/W speakers are at working height, you can attach the protective weather covers for this speaker model, if necessary.
- For outside uses, these optional protective weather covers with hook-and-loop fastener serve as rain protection for the rear flying mechanics and the cable connections.
9. Lift the array evenly and slowly into its operating position so that it cannot swing out during lifting, then secure it. In doing this, make sure that chain hoists and lifting accessories do not get caught. Make sure that the speaker cables do not get crimped or get caught.

11. Flown Disassembly

1. Basically, you disassemble the array in the reverse order of assembly.
2. Replace each transport cover when the speakers are hanging at working level.

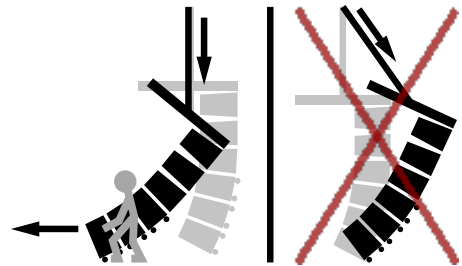
3. Just before the bottom speaker touches the ground, pull the array in the direction of the arrow.

This way, you make sure that the array does not stand on the side of the bottom speaker, but rather on the castors.



Always make sure that the chain hoist is hanging vertically during lowering. If you do not do this, the array could sway suddenly.

If the system is not standing on the castors, this could lead to diagonal pull during further lowering.



4. Lower **SEQUENZA 10 B arrays** far enough that all systems are on the wheels, then prepare the SEQUENZA 10 speakers for transport.

- Place the used Quick Release Pins back onto their intended stand-by positions on the speaker and flying frame.
- Push all joint plates back into the speaker.
- Dismantle all other used components so that they are not exposed and get damaged during transport.

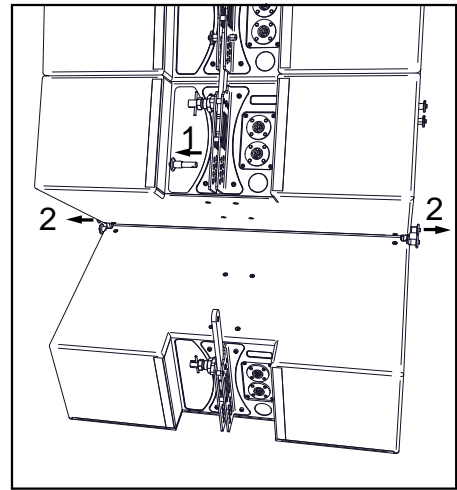
For **arrays with SEQUENZA 10 N/W and a length exceeding 5m**, proceed as described in sub-section [Disassembly of arrays with SEQUENZA 10 N/W exceeding a Length of 5m].

For **arrays with SEQUENZA 10 N/W and a maximum length of 5m**, proceed as described in sub-section [Disassembly of arrays with SEQUENZA 10 N/W and a maximum Length of 5m].

11.1 Disassembly of arrays with SEQUENZA 10 N/W exceeding a Length of 5m

1. Replace each transport cover when the speakers are hanging at working level.

2. Just before the bottom speaker touches the ground, two people must grab hold of the speaker at the recessed handles. Release the rear Quick Release Pins **(1)** first and catch the speaker while it is swinging down by holding it at the recessed handles. Then release the lower front Quick Release Pins of the next highest speaker **(2)** and remove the lowest speaker.



3. Disassemble as many speakers in this manner until the array only has a remaining length of max. 5m (For arrays only having SEQUENZA 10 N/W systems, this corresponds to 16 speakers). Then proceed as described in sub-section [Disassembly of arrays with SEQUENZA 10 N/W and a maximum Length of 5m].

11.2 Disassembly of arrays with SEQUENZA 10 N/W and a maximum Length of 5m

1. When all four castors of the SEQUENZA 10 N/W speaker touch the ground, pull the spring bolt until it comes free.

During lowering, starting with the lowest speaker, there is a point for each speaker at which its rear connection is force-free. Pull the spring bolts out at this moment.

2. Prepare the SEQUENZA 10 system for transport:
 - After you have completely lowered the array, release all Quick Release Pins and push the speakers apart.
 - With the SEQUENZA 10 N/W systems, set the Quick Release Pins of the rear connecting brackets to the 0° position.
 - Push all rear joint plates of the SEQUENZA 10 N/W systems into their park position so that the spring bolts snap back into place. To put it into the park position, use the drill hole that is not completely drilled through in the rear joint plate.
 - Pull the front Quick Release Pins and put them into the park position of the speaker enclosure. If the safety cords on the Quick Release Pins protrude out of the side of the speaker, turn the Quick Release Pins so that the safety cords are in the grooves. This way you can protect the safety cords from transport damage.
 - Push the front joint plates into the speaker.
 - Dismantle all other used components so that they are not exposed and get damaged during transport.

12. Stacked Setup

12.1 SEQUENZA 10 N/W stacked

12.1.1 Preparing the Flying Frame

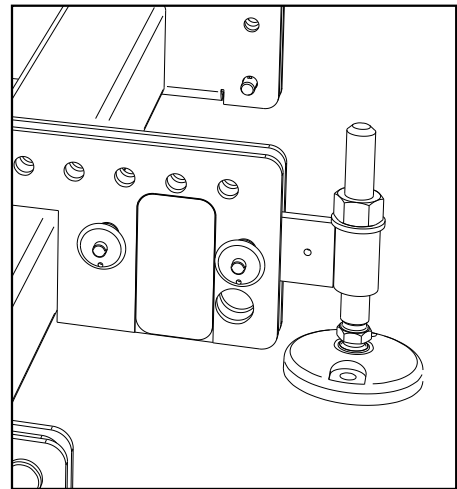
The feet are available as optional accessories and serve to guarantee the stability, balance out unevenness, and align the frame. Keep in mind that under certain circumstances, the feet can leave marks on the ground.



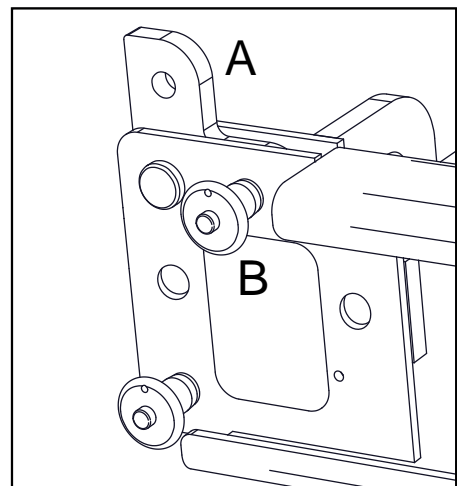
It is not permissible to stack the speakers on the flying frame without the optionally available hinged heavy-duty feet!

During setup, check **every** Quick Release Pin to ensure that it is locked in place by pulling it outwards! As long as you do not push the button in the middle of the pin, you should not be able to pull out the pin.

1. Take the rear foot out of the park position and insert it into the back of the frame.

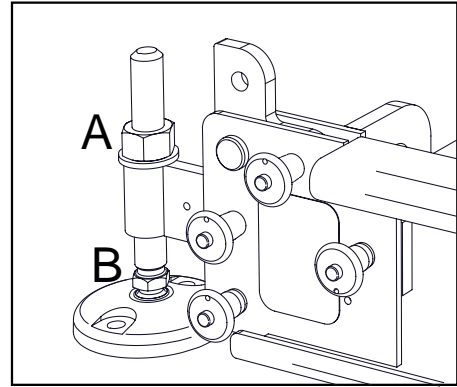


2. Remove the top Quick Release Pins on the front end of the flying frame and turn the hinged fitting between the metal plates so that one leg of the hinged fitting is pointing upwards.
3. Secure the hinged fitting **(A)** in this position with the Quick Release Pin **(B)**.



4. Take one front foot out of the park position and insert it into the front of the frame.
5. Proceed accordingly with the other side.

6. Align the frame.
Loosen the lock nut **(A)** on top with a 24 mm open-end wrench. Turn the threaded rod **(B)** with a 17 mm open-end wrench to adjust the height. Re-tighten the lock nut. The upper end of the thread is blank so that the counternut cannot be completely removed. Do not try to clear the thread again.



12.1.2 Mounting the Speakers

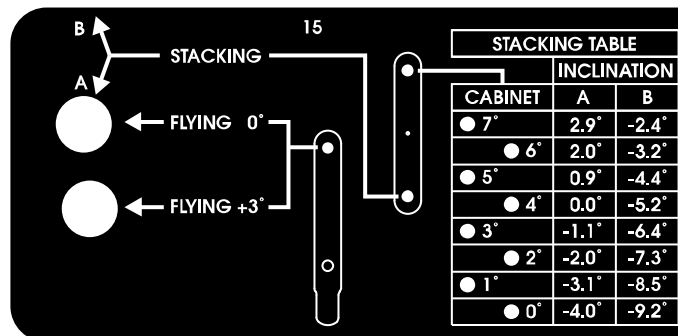
See the instructions in chapter [Safety Instructions] from page 11 and in the corresponding sub-section [Safety Instructions for Stacked Setups] from page 12.

It is not permissible to stack the speakers on the flying frame without the optionally available hinged heavy-duty feet!

During setup, check **every** Quick Release Pin to ensure that it is locked in place by pulling it outwards! As long as you do not push the button in the middle of the pin, you should not be able to pull out the pin.

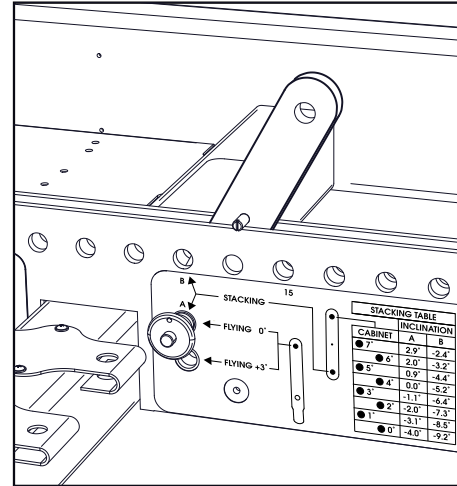
- You will get the specifications for the setting angle of the bottom speaker on the frame from the simulation software CON:SEQUENZA. CON:SEQUENZA(The angle specifications refer to the centre axis of each speaker.)

To determine the correct drill holes on the speaker and frame for the desired angle, look for the desired angle in one of the two right columns (see illustration below).

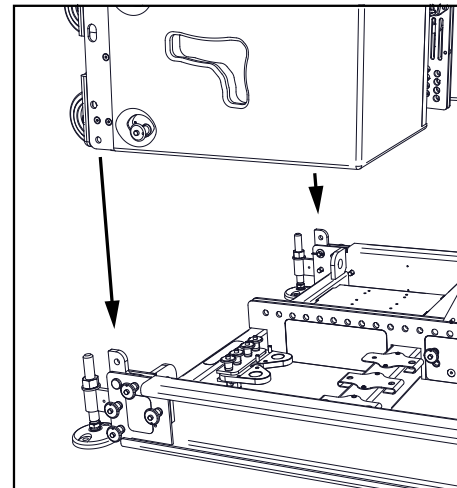


- At the top of the appropriate column, the drill hole (A or B) in the flying frame is indicated where you must insert the Stacking Link.
- In the column "Cabinet", the drill hole in the rear joining plate of the speaker is indicated where you must insert the Stacking Link on the speaker.

4. Take the stacking link out of the park position and set it to the desired position.



5. Take the rear Quick Release Pins on the first speaker out of the park position.
6. Pull the spring bolt out and hold it. Pull out the joint plate approx. 10 cm towards the spring bolt and then let go of the spring bolt. By doing this, the rear joint plate is no longer in the way when the speaker is stacked and then connected with the stacking link.
7. Place the speaker on the frame. Make sure that the hinged fittings protrude between the joining plates on the speaker.

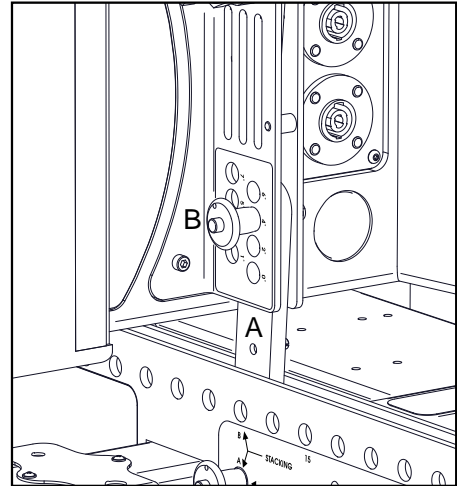


8. Secure the front connections with the Quick Release Pins from the speaker.

Risk of crushing hands! When lowering the speakers, there is the risk of crushing your hands while the enclosure parts move towards each other. Make sure that you do not lower the speaker with jolting movements.



9. Lift up the back of the speaker, align the Stacking Link **(A)** with the drill hole for the desired angle and secure the connection with the Quick Release Pin **(B)**.



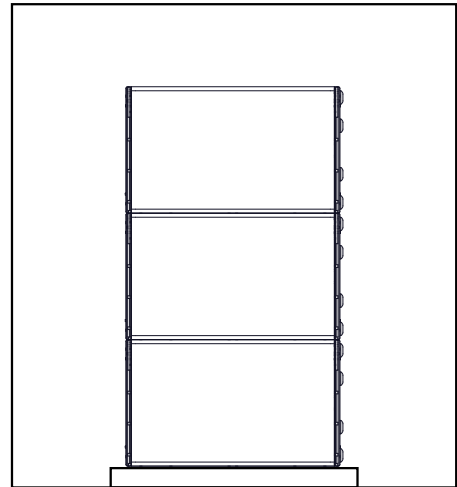
10. Push the front joint plates out of the first speaker and secure them with the Quick Release Pins.
11. Prepare the next speaker as described in steps 2 - 3.
12. Place the next speaker on the stack and secure the front connections with two Quick Release Pins.
13. Place the joint plate between the drill holes for the desired angle and connect them with the Quick Release Pin.
14. Proceed accordingly with the remaining speakers.
15. Wire the array. Follow the instructions in chapter "Wiring" beginning on page 42.

12.2 SEQUENZA 10 B stacked

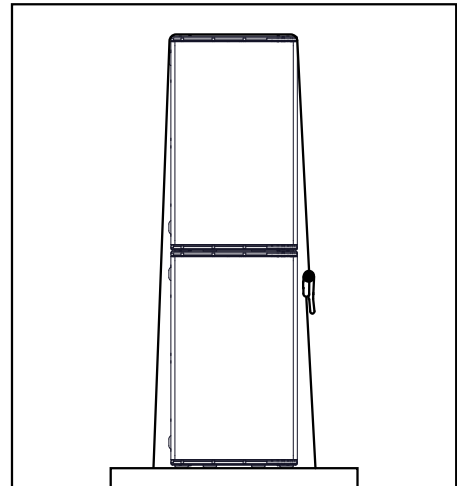
1. Securely place the bottom subwoofer onto a level surface.
2. Stack the subwoofers on top of one another.

Make sure that the stacking feet of subwoofers stacked on top of one another are securely positioned in the grooves of the lower speaker.

You can connect horizontally stacked systems with the joint plates.

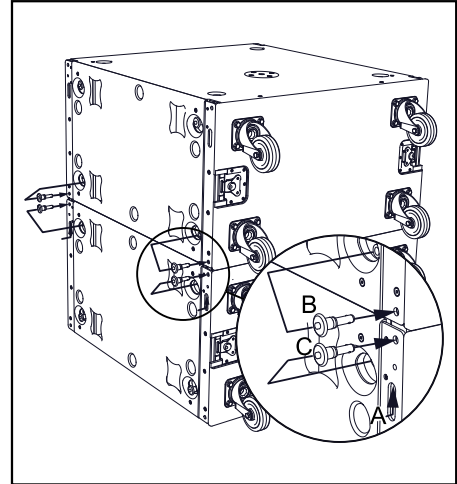


You must additionally secure vertically standing stacked SEQUENZA 10 B systems from falling since the structural safety is not guaranteed, otherwise.



12.3 SEQUENZA 10 N/W stacked on SEQUENZA 10 B

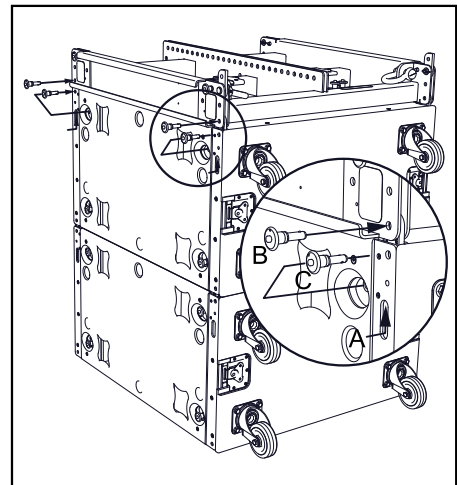
1. Stack the subwoofers on top of one another.
2. Slide the joint plate out of the speaker by reaching into the access opening **(A)** and pushing the joint plate up.
Secure the joint plates with the two Quick Release Pins **(B)** and **(C)**.



3. Proceed accordingly with the three remaining plates that connect the subwoofers.
4. As needed, repeat the process for the next subwoofers that are stacked on one another.
5. Lay the flying frame on top of the uppermost subwoofer, as illustrated.

Slide the joint plate out of the speaker by reaching into the access opening **(A)** and pushing the joint plate up.

Secure the joint plates with the two Quick Release Pins **(B)** and **(C)**.



6. Proceed accordingly with the three remaining plates of the subwoofer.
7. The remainder of the setup is the same as the stacked SEQUENZA 10 N/W -> Mounting the Speakers, see page 33.

13. Disassembling the Stacked Array

1. Basically, you disassemble the array in the reverse order of assembly.
2. Replace the transport cover.
3. Prepare the system for transport:
 - Place the used Quick Release Pins back onto their intended stand-by positions on the speaker and flying frame.
 - Push all joint plates back into the speaker.
 - Dismantle all other used components so that they are not exposed and get damaged during transport.
 - With the SEQUENZA 10 N/W systems, set the Quick Release Pins of the rear connecting brackets to the 0° position.
 - Push all rear joint plates of the SEQUENZA 10 N/W systems into their park position so that the spring bolts snap back into place. To put it into the park position, use the drill hole that is not completely drilled through in the rear joint plate.

14. Cardioid Arrays with SEQUENZA 10 B

The subwoofer SEQUENZA 10 B is designed so that it can be used as a cardioid and hypercardioid system in an array of three subwoofers, or in multiples of three.

A cardioid array results in an increase of sound pressure towards the front because of the rear-facing subwoofer. In the rear area (**cardioid**) or in the lateral side area (**hypercardioid**), on the other hand, the sound pressure is clearly reduced.

With this, you achieve

- less unwanted sound on the stage
- low feedback
- simplified miking
- improved room acoustics with fewer reflections from the rear and side walls, or – when flown – from the ceiling
- simplified adherence of sound emission limits and therefore less noise disturbance for nearby residential areas during open air events.

14.1 Setup instructions for a cardioid array

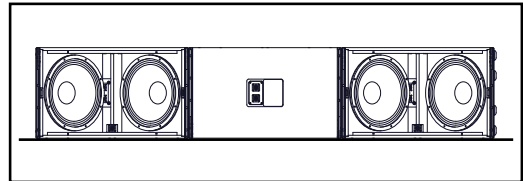
To achieve a cardioid or hypercardioid pattern, you must always have an array with 3 subwoofers - or a multiple of 3 subwoofers - setup next to one another (3, 6, 9, etc.). In this set of three, the middle one must be stacked or flown rear-facing while both other subwoofers are front-facing.

The subwoofer and the flying frame SEQUENZA 10 allow for these setup options with their given design. You can stack the subwoofers even when they are facing opposite directions, and you can connect them to front-facing systems.

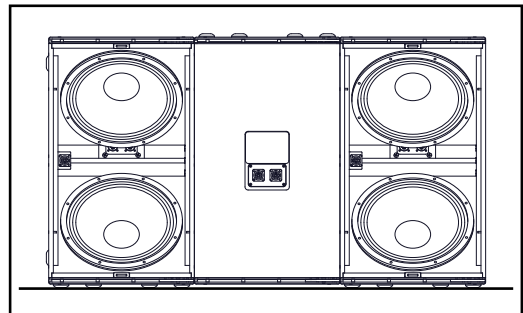
There is an additional Speakon connector on the front grille so that you can connect the cables to the rear-facing side of all subwoofers in a cardioid array.

You can choose from the following options for cardioid and hypercardioid setups:

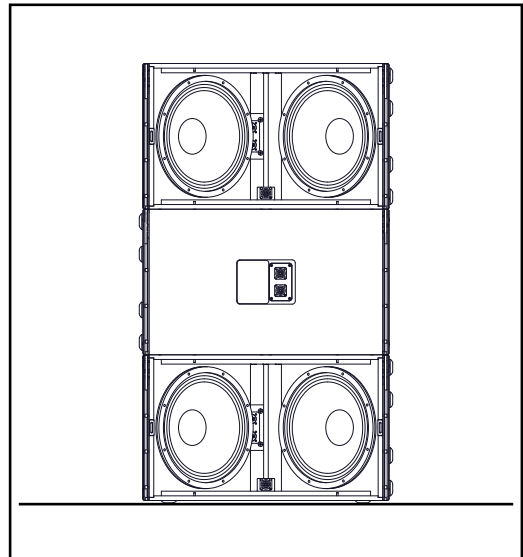
3 x SEQUENZA 10 B horizontal



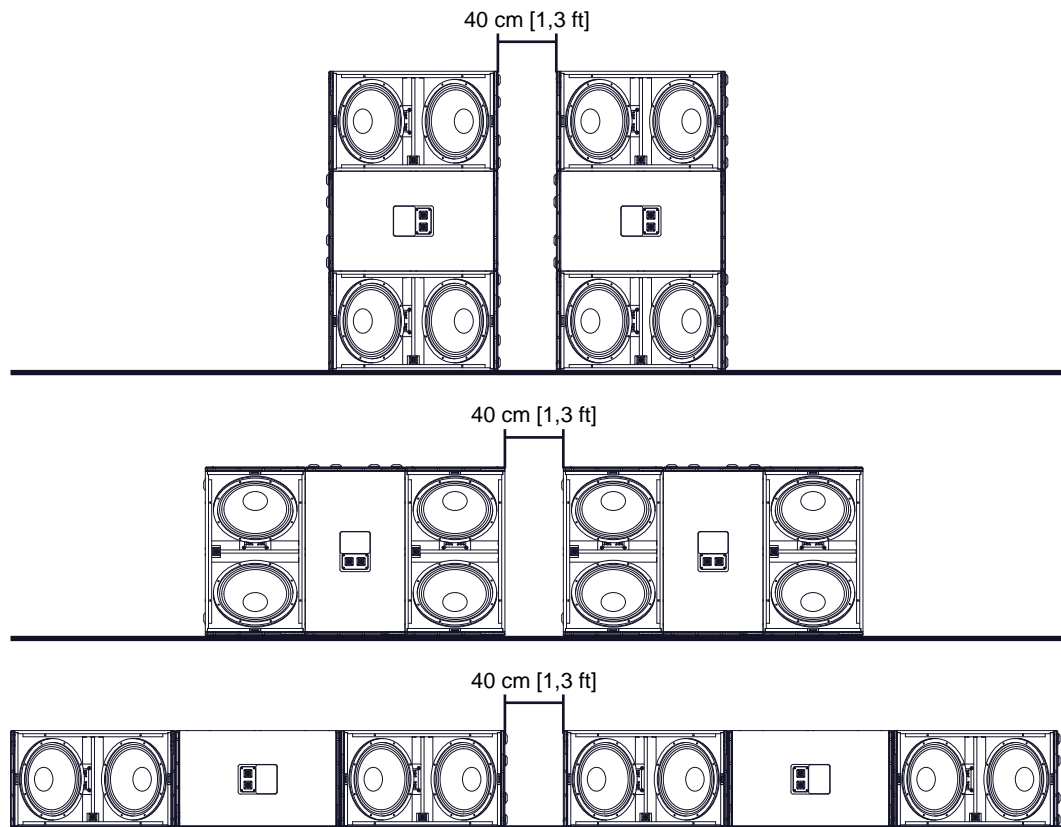
3 x SEQUENZA 10 B vertical



3 x SEQUENZA 10 B stacked



When cardioid arrays are stacked on the floor, ensure that there is always a distance of at least 40 cm between each unit of 3.



14.2 Controller setups for cardioid use

The rear-facing subwoofer is controlled using the Controller CD 44 via LSBlock for cardioid / hypercardioid arrays for rear-emitting subwoofers. The front-facing subwoofers are controlled via LSBlock for cardioid / hypercardioid arrays for front-emitting subwoofers. The following cardioid or hypercardioid setups are available in the CD 44:

Operation Mode of the SEQUENZA 10 B	Controller Setup
'Cardioid Front', front-facing	SEQ10B C-F
'Cardioid Rear', rear-facing	SEQ10B C-R
'Hypercardioid-Front', front-facing	SEQ10B HC-F
'Hypercardioid-Rear', rear-facing	SEQ10B HC-R
'Infrabass Cardioid Front', front-facing	SEQ10B C-F60Hz
'Infrabass Cardioid Rear', rear-facing	SEQ10B C-R60Hz
'Infrabass Hypercardioid Front', front-facing	SEQ10B HC-F60Hz
'Infrabass Hypercardioid Rear', rear-facing	SEQ10B HC-R60Hz

15. SEQUENZA 10 B combined with other K&F tops.

The SEQUENZA 10 B can also be combined with other K&F tops – in addition to the SEQUENZA 10 N/W systems – using the Controller CD 44.

- To do so, select the desired LS blocks for the top in the Controller CD 44, and combine these with the desired LS block for the SEQUENZA 10 B.
- Then activate the 'Combi Mode' by switching on Filter B for the SEQUENZA 10 B channel.

When combining with SEQUENZA 10 N/W tops, Filter B (Combi Mode) may not be switched on!

In the CD 44 Hardware Manual, you will find a detailed description about connecting the SEQUENZA 10 speakers and the settings necessary on the System Controller CD 44. SEQUENZA 10 B

On the top side of the subwoofer, there is a threaded flange (M20) for screwing in an optionally available distance rod.

All K&F tops with a flange connector or an assembled stand adapter can be placed onto this distance rod.

When you assemble a top onto a subwoofer using a distance rod, the structural safety is reduced. In this case, you must take suitable measures in order to guarantee the structural safety.

For subsequent repositioning, always remove the top speaker that has been positioned using a distance rod.



16. Fuse in the SEQUENZA 10 B

To increase the operating safety of the SEQUENZA 10 B, the subwoofers are equipped with fuses at the signal input. These fuses reduce the risk of consequential damage resulting from a short circuit (i.e. charred cables / connectors / fire damage).

16.1 Replacing the Fuses

To replace defective fuses, remove the front grille of the SEQUENZA 10 B.

The fuse holder is on the cable of the front connector (Speakon input).

When necessary, only replace the fuse with the following original fuse:

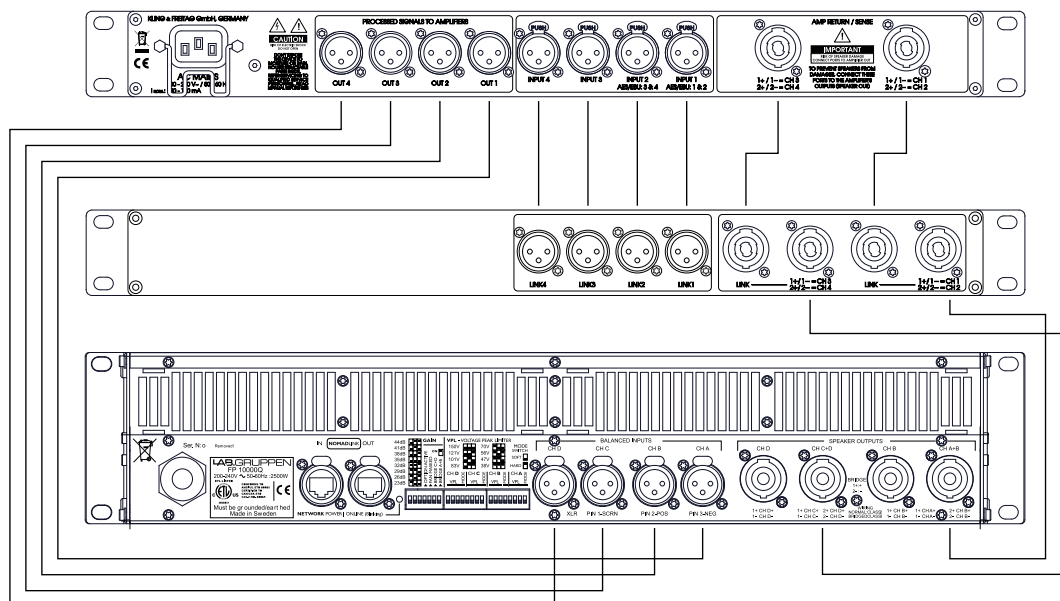
Bussmann S 506-8A

17. Wiring

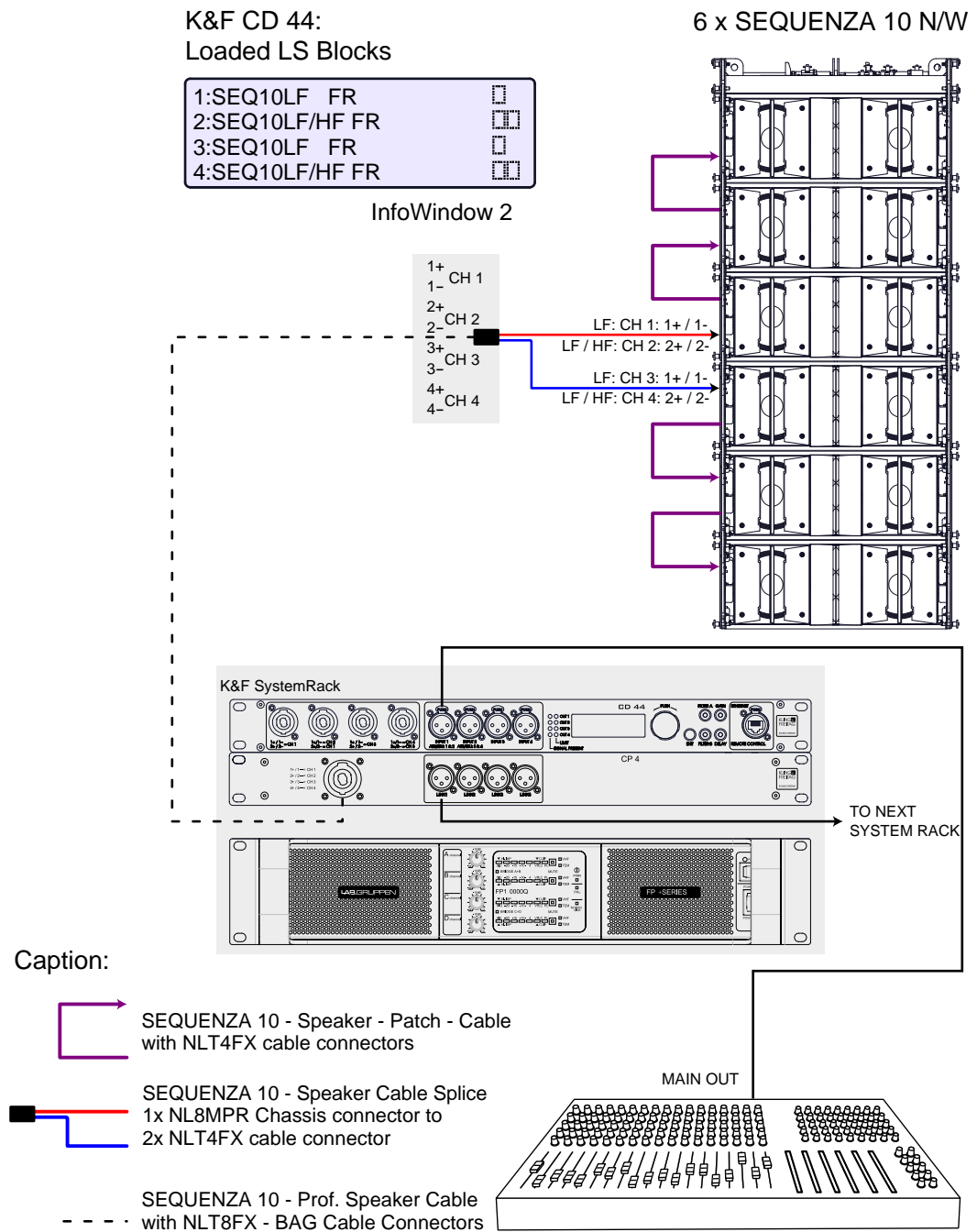
The operating safety and the highest-possible performance is only guaranteed in conjunction with the K&F SystemRack.



17.1 Cabling a K&F System Rack

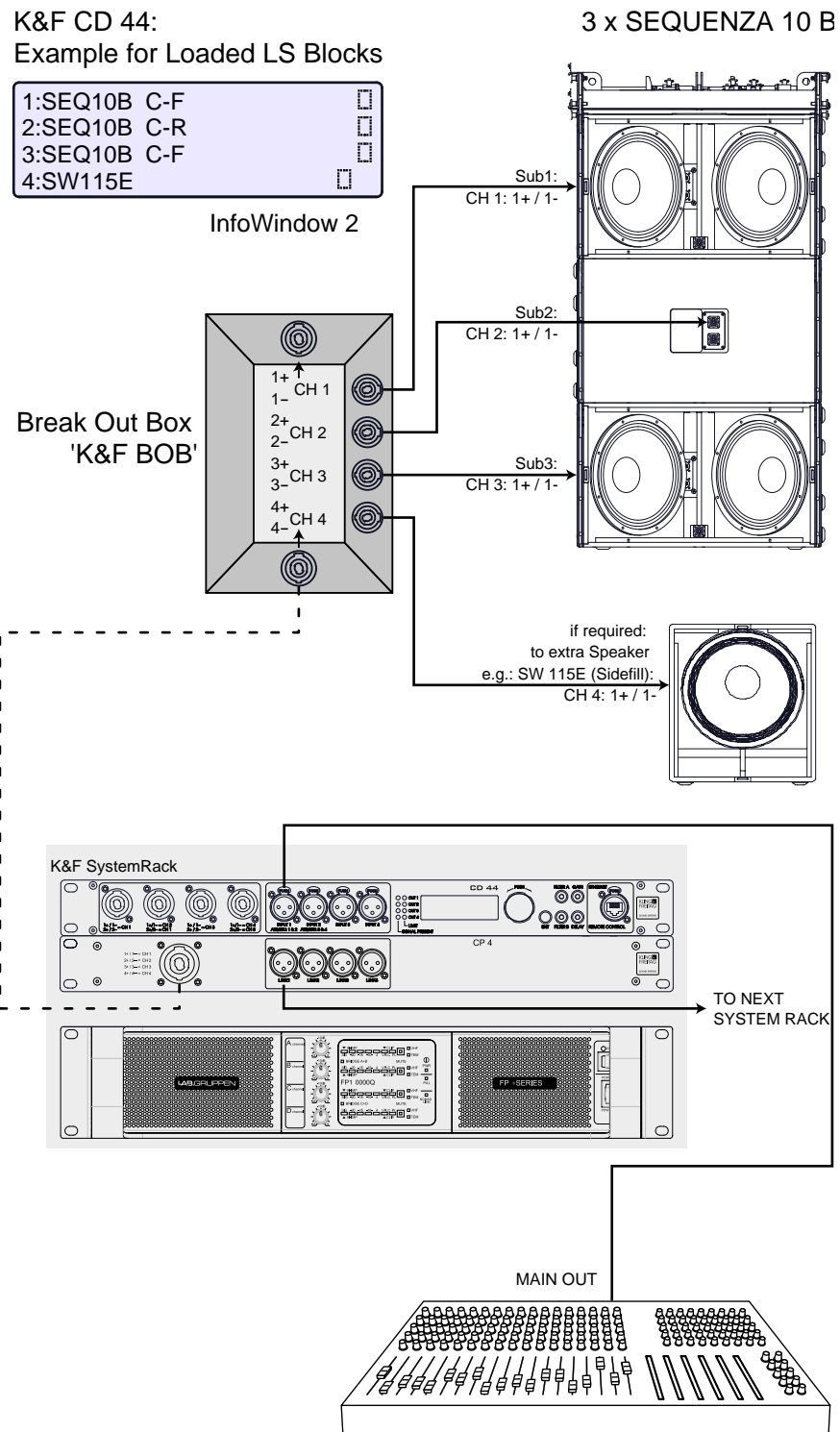


17.2 Connecting the SEQUENZA 10 N/W



17.3 Connecting the SEQUENZA 10 B

The 3 subwoofers in a cardioid setup need to be controlled with an identical level and signal. You can achieve this most easily by using the CD 44 routings '1in4out' or '1in3out+AUX'



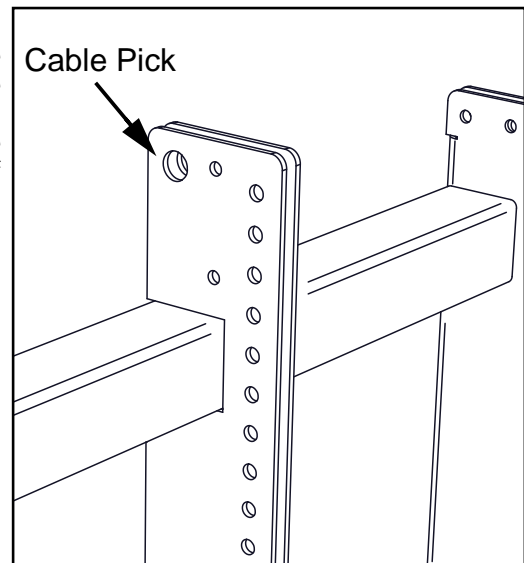
17.4 Fixating the Cables

The array may not be used as a climbing aid.

Fixate the cable to relieve the connectors.

In doing this, bear in mind that if you fixate the cable on the cable pick in a one-point rigging, the weight of the cable can change the angle.

It is, therefore, only recommendable to fixate the cable on the cable pick in a two-point rigging. If necessary, use a separate cable pick.



18. Transport and Storage

The flown components (metal parts on the speaker enclosure and the SEQUENZA 10 flying frame) are protected against short-term moisture with a coating. SEQUENZA 10 It should still be stored, transported, and used under dry conditions, though. The SEQUENZA 10 System is not designed for long-term use in a corrosive environment. SEQUENZA 10

Make sure that the system is adequately ventilated during longer storage periods so that possible residual moisture can escape from the equipment.

Furthermore, you should ensure that all components of the SEQUENZA 10 System are protected from mechanical strain to prevent possible damage.

We recommend using suitable transport and storage cases and the optional soft cover that protects from the above-mentioned influences.

19. Maintenance and Care

For the owner and user, it is mandatory to be aware of the fact that rigging systems are highly safety critical.

It is, therefore, highly essential to carry through meticulous and well-documented maintenance procedures and inspections.

The inspection requirements vary depending on application and country of use. Observe the requirements that are relevant for you. If in doubt, contact local authorities.

In many countries, regular inspection of mounting components and accessories is required. It is thus recommendable to carry through such an inspection for your own safety, too. In most cases (BGV C1), an annual visual inspection is required that must be done by a technical expert. Additionally, a detailed inspection carried through by a legally certified or official authority is required every four years.

In this context, it is very important to keep an inspection log book. In this inspection log book, the data for every used accessory is entered at the periodic inspections, making the data available at all times for possible inspections.

In addition an inspection book for the rigging components of the SEQUENZA 10 system should be kept and maintained carefully. SEQUENZA 10 This book should document maintenance measures and inspection intervals and contain parts lists.

If as a result of these checks any uncertainty should arise with regard to safety or if specific faults are found, the SEQUENZA 10 system may no longer be used. SEQUENZA 10

If defects are ascertained, then you must send in the product to KLING & FREITAG GmbH for inspection and repairs, if necessary.

You may not repair or straighten the components of the SEQUENZA 10 System (speakers and flying frame) yourself! SEQUENZA 10 If parts of the rigging system are damaged, send in the speakers or the flying frame to KLING & FREITAG GmbH or recycle it at a professional scrap processing plant. It must by all means be guaranteed that the parts can no longer be used in any way after their disposal.

19.1 Inspection Intervals and Items

The SEQUENZA 10 System can exhibit signs of wear over the years, i.e. from mechanical strain, transport damage, corrosion, or improper handling. SEQUENZA 10 In general, this always indicates an increased accident risk.

As a basic principle, you must visually inspect the SEQUENZA 10 System every time you get it out or box it up. SEQUENZA 10 For fixed installations, you must inspect the SEQUENZA 10 System at regular intervals for signs of wear. SEQUENZA 10

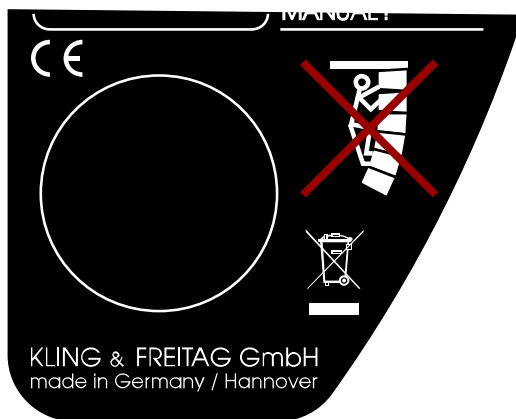
During these inspections, you must especially look out for deformations, cracks, dents, damage to threads, and corrosion. Mounting devices such as shackles, chains and wire ropes also have to be checked for signs of wear or deformation carefully.

During the inspection, you must also carefully inspect the following items:

- Mobility of the spring bolts. The bolts must move easily and snap securely into place. They must protrude at least 0.5 mm out of the joining plate on the opposite side.
- Impact and corrosion damage on the flying frame and on the speaker enclosure.

20. Optional BGV C1 Certification

In Germany, you have the possibility to have your system individually certified. If required, you can request the necessary basis of calculation from KLING & FREITAG. On the speakers as well as on the flying frame, there is a field where an inspection label can be affixed.



21. Technical Specifications of Loudspeakers

21.1 Technical Specifications SEQUENZA 10 N

Design	2 + 1-way passive system with FLC® technology, completely horn loaded, bass reflex tuning
Frequency range -10 dB	44 Hz - 22 kHz in 'FR mode' 58 Hz - 22 kHz in 'LCut mode'
Frequency range -5 dB	49 Hz - 18.5 kHz in 'FR mode' 87 Hz - 18.5 kHz in 'LCut mode'
Horizontal coverage angle	77°
Vertical coverage angle	depending on configuration
Nominal power handling LF 1	300 W RMS, 600 W program, 1200 W peak
Nominal power handling LF 2 + HF	300 W RMS, 600 W program, 1200 W peak
Max. SPL (sinus burst 185 ms @ 10% THD)	134.5 dB RMS, 138 dB peak (1 x SEQUENZA 10 N) 146.5 dB RMS, 150 dB peak (4 x SEQUENZA 10 N)
Sinus burst 185 ms with Lab.Gruppen	134 dB RMS, 137.5dB peak (1 x SEQUENZA 10 N)
FP 10000Q and CD 44*	146 dB RMS, 149.5 dB peak (4 x SEQUENZA 10 N)
Components	1 x 10" woofer, 1 x 10" low-mid, both with attached horn 3 x 1" high frequency driver with 44 mm voice coil
Nominal impedance	LF 1: 12 Ω, Zmin. 12.3 Ω @ 400 Hz LF 2 + HF: 12 Ω, Zmin. 10 Ω @ 220 Hz
Wiring	2 x Speakon 4 pin NLT-4FP
Enclosure Design	Lightweight, water-resistant high-tech multiplex plywood with highly resilient Polyurea synthetic coating in black, integrated rigging system, 5 Quick Release Pins (undetachable), 2 angled handles, 2 locking profiles for optional transport cover, ball-proof grille with exchangeable black acoustic foam
Rigging system	'Snap&Fly', integrated 3-point rigging system (patent pending)
Dimensions (W x H x D)	795 x 303 x 481 mm
Weight	34 kg
Accessories	see catalogue or visit www.kling-freitag.de

*Pink noise, depending on crest factor and amplifier output power

21.2 Technical Specifications SEQUENZA 10 W

Design	2 + 1-way passive system with FLC® technology, completely horn loaded, bass reflex tuning
Frequency range -10 dB	44 Hz - 23.5 kHz in 'FR mode'
	58 Hz - 23.5 kHz in 'LCut mode'
Frequency range -5 dB	49 Hz - 23 kHz in 'FR mode'
	87 Hz - 18.5 kHz in 'LCut mode'
Horizontal coverage angle	100°
Vertical coverage angle	depending on configuration
Nominal power handling LF 1	300 W RMS, 600 W program, 1200 W peak
Nominal power handling LF 2 + HF	300 W RMS, 600 W program, 1200 W peak
Max. SPL (sinus burst 185 ms @ 10% THD)	134.5 dB RMS, 138 dB peak (1 x SEQUENZA 10 W)
	146.5 dB RMS, 150 dB peak (4 x SEQUENZA 10 W)
Sinus burst 185 ms with Lab.Gruppen	134 dB RMS, 137.5dB peak (1 x SEQUENZA 10 W)
FP 10000Q and CD 44*	146 dB RMS, 149.5 dB peak (4 x SEQUENZA 10 W)
Components	1 x 10" woofer, 1 x 10" low-mid, both with attached horn
	3 x 1" high frequency driver with 44 mm voice coil
Nominal impedance	LF 1: 12 Ω, Zmin. 12.3 Ω @ 400 Hz
	LF 2 + HF: 12 Ω, Zmin. 10 Ω @ 220 Hz
Wiring	2 x Speakon 4 pin NLT-4FP
Enclosure Design	Lightweight, water-resistant high-tech multiplex plywood with highly resilient Polyurea synthetic coating in black, integrated rigging system,
	5 Quick Release Pins (undetachable), 2 angled handles,
	2 locking profiles for optional transport cover,
	ball-proof grille with exchangeable black acoustic foam
Rigging system	'Snap&Fly', integrated 3-point rigging system (patent pending)
Dimensions (W x H x D)	795 x 303 x 481 mm
Weight	34 kg
Accessories	see catalogue or visit www.kling-freitag.de

*Pink noise, depending on crest factor and amplifier output power

21.3 Technical Specifications SEQUENZA 10 B

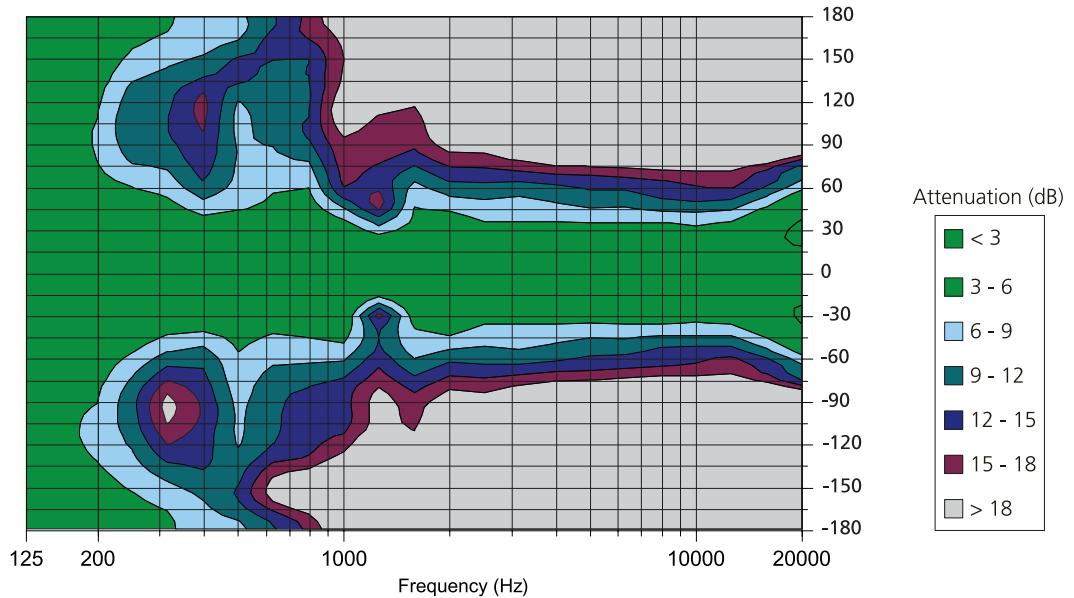
Design	Bass reflex system
Crossover frequencies (2-Way-Mode / 60 Hz)	100Hz / 60 Hz
Lower cut-off frequency (-3 dB / -10 dB)	39 Hz / 33 Hz
Coverage	Omnidirectional (optional in clusters of three via CD 44)
Power handling	1800 W nominal ¹⁾ 3600 W program ²⁾
Max. SPL	133 dB
Components	2 x 15" long excursion chassis, 10mm voice coil with double centring, internal and external ven- tilation, double demodulation ring for minimal distortion
Impedance (nominal)	4 Ω
Wiring	Rear: 2 x Speakon 4-pin NLT4MP (1+ / 1-) 2 IN parallel into 2 OUT Front: 1 x Speakon 4-pin NLT4MP (1+ / 1-)
Enclosure Design	15 mm frame reinforced multiplex plywood enclo- sure with highly resilient Polyurea synthetic black, coating, K&M mounting plate with M20 thread for distance rod, 'Snap&Fly' compatible 4-point rigging system, 8 butterfly handles, 10 plastic sliding feet, 10 stacking grooves for save stackings of identical enclosures, locking profiles for transport cover
Dimensions (W x H x D)	807 x 470 x 850 (without castors) 807 x 470 x 990 (with castors)
Weight	62.0 kg
Accessories	see catalogue or visit www.kling-freitag.de

1) Pink noise 40 - 250 Hz, 2 h; 2) as 1) but with 50% duty cycle

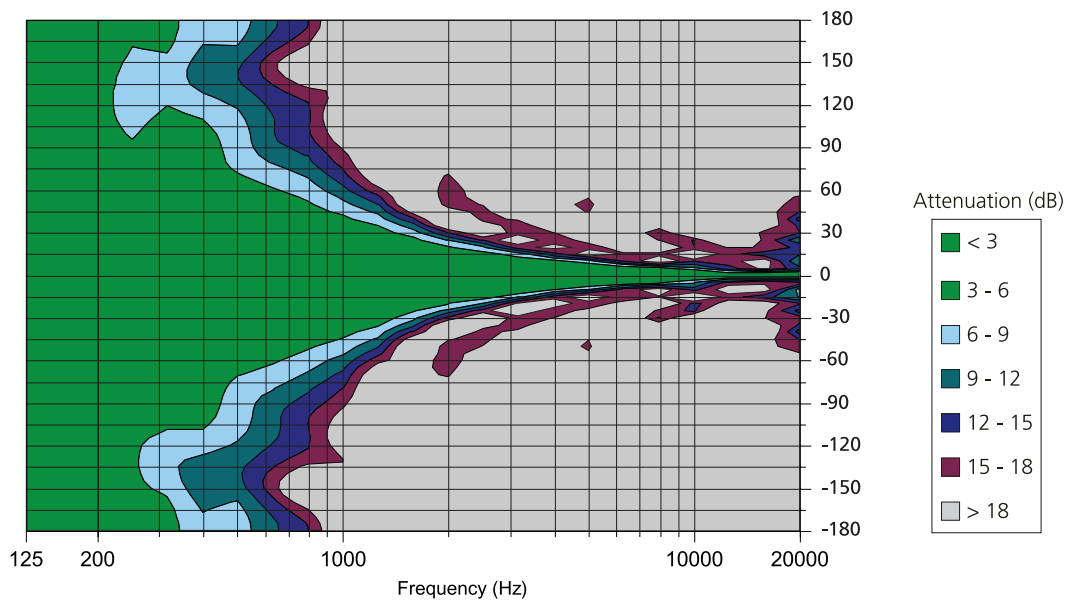
22. Measuring diagrams

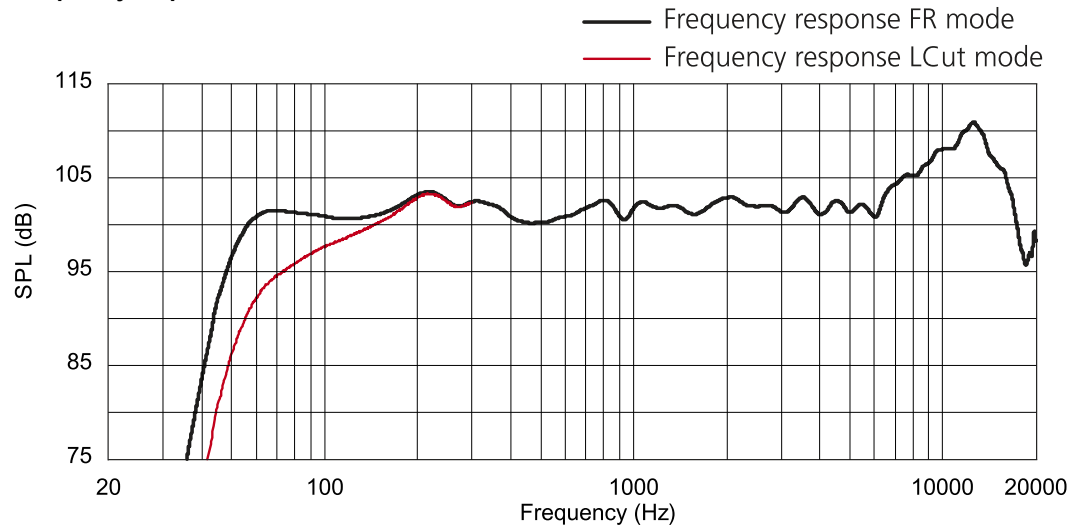
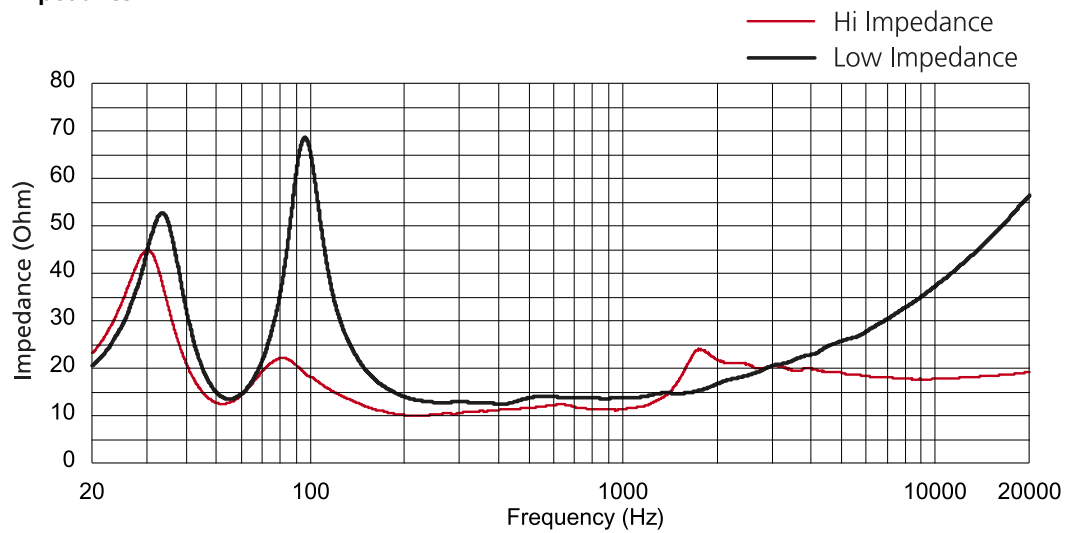
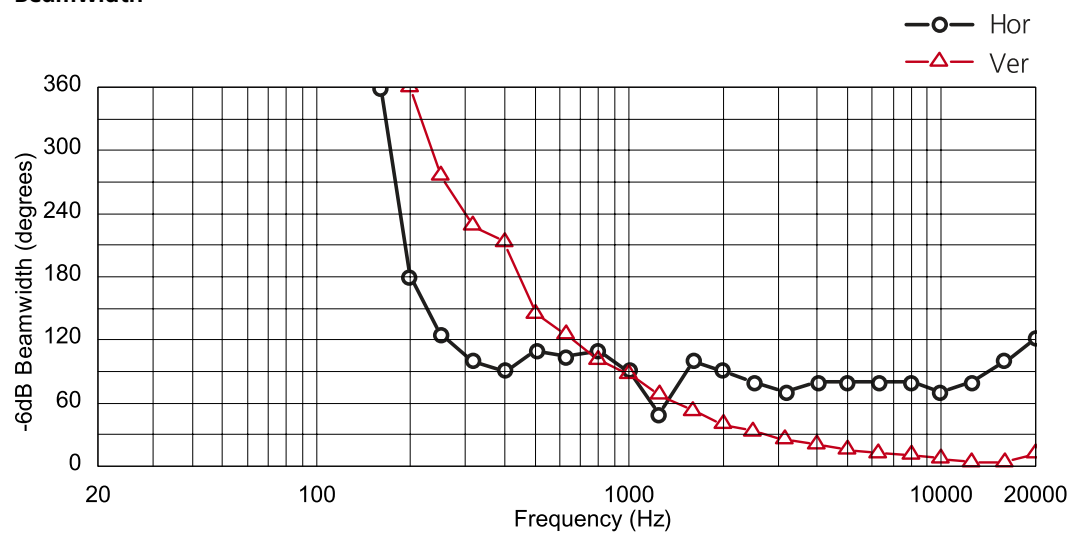
22.1 SEQUENZA 10 N diagrams

Horizontal coverage pattern



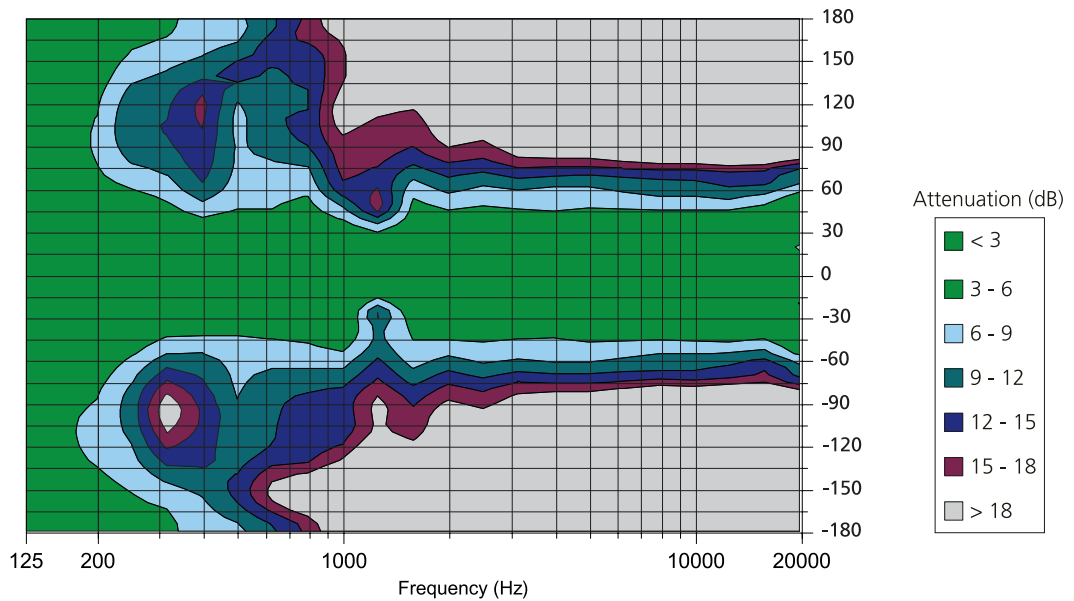
Vertical coverage pattern



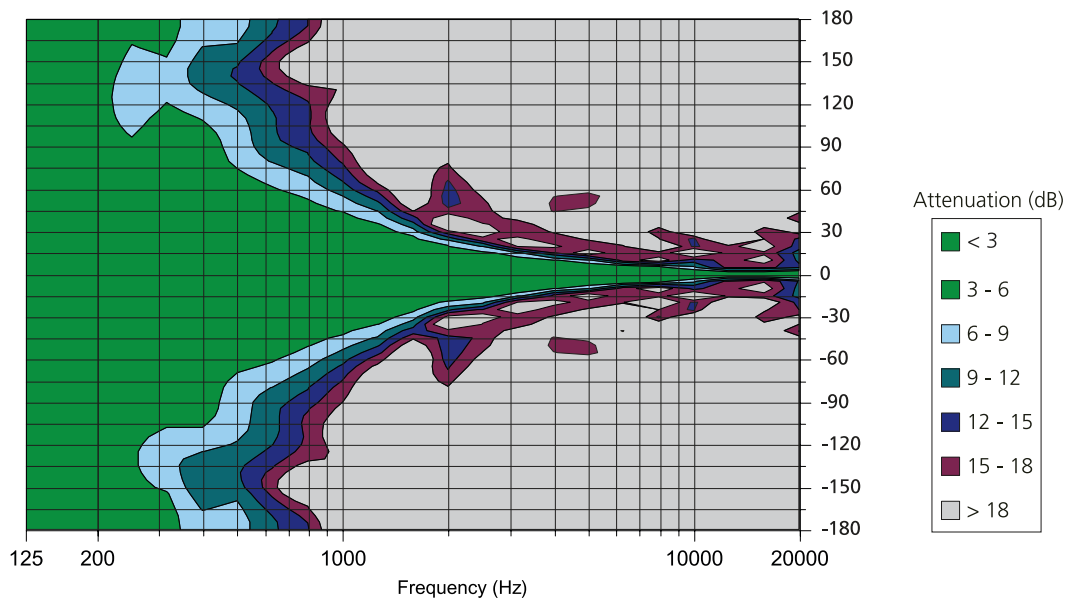
Frequency response 'on axis'**Impedance****Beamwidth**

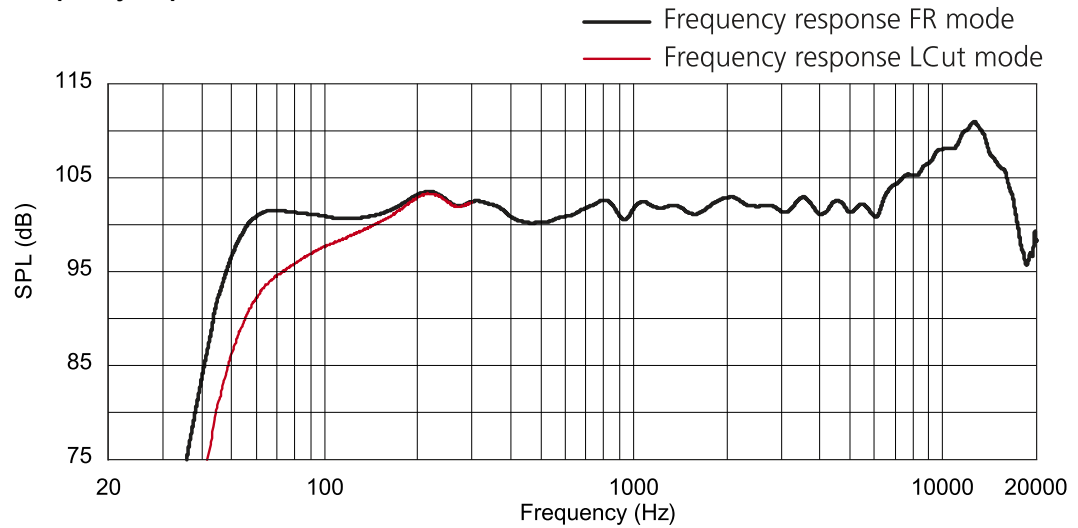
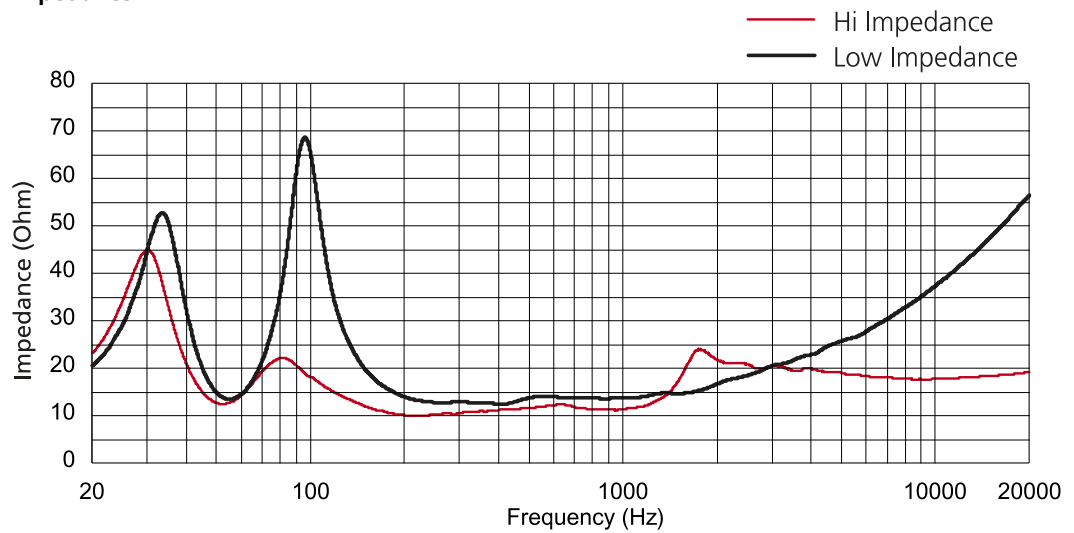
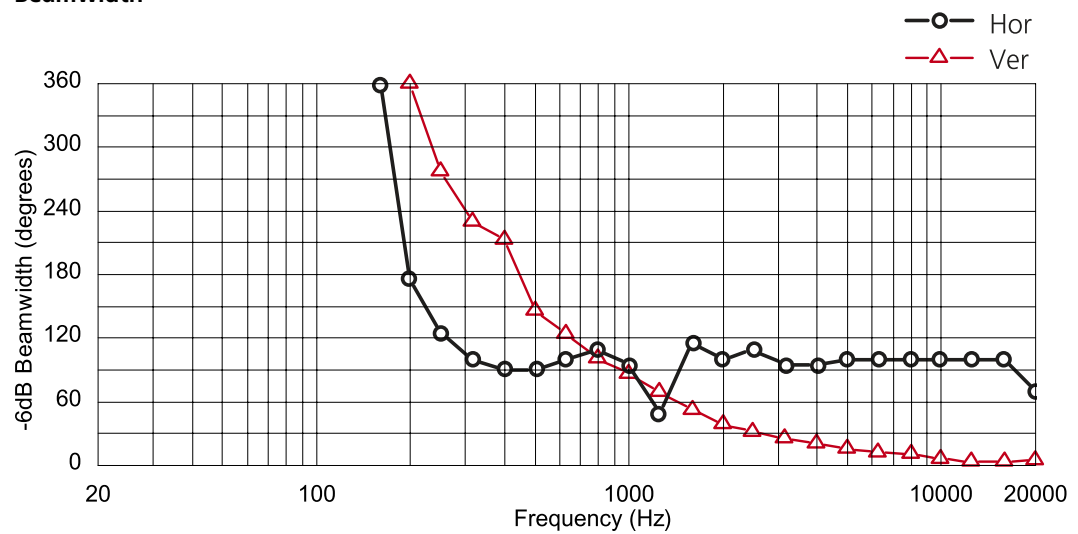
22.2 SEQUENZA 10 W diagrams

Horizontal coverage pattern



Vertical coverage pattern

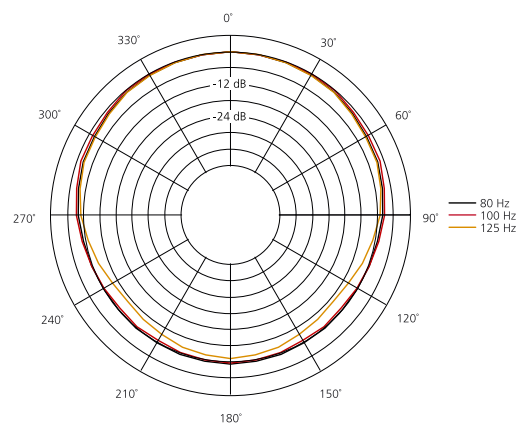
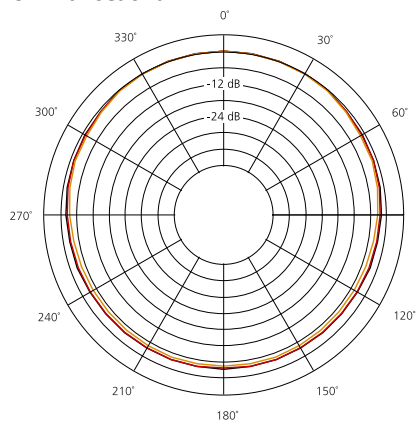


Frequency response 'on axis'**Impedance****Beamwidth**

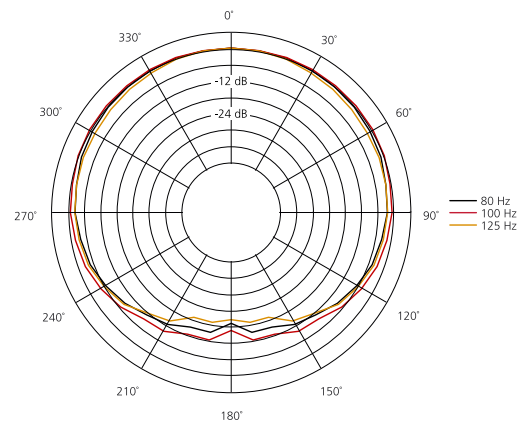
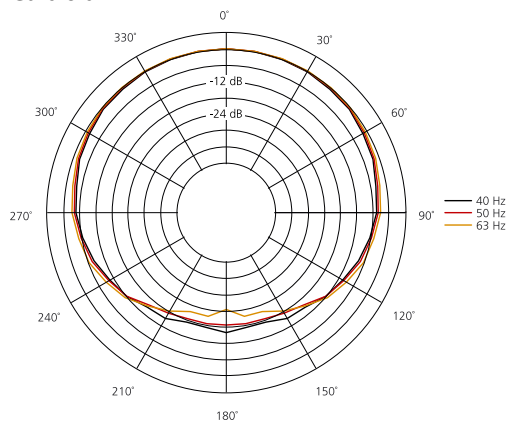
22.3 SEQUENZA 10 B diagrams

Polar Patterns

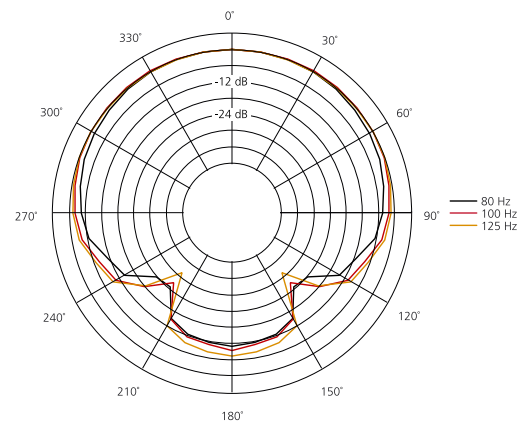
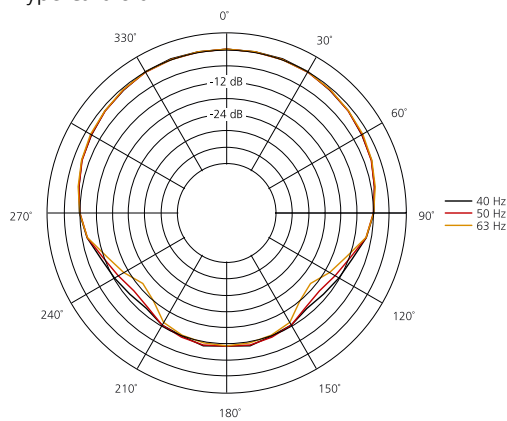
Omnidirectional

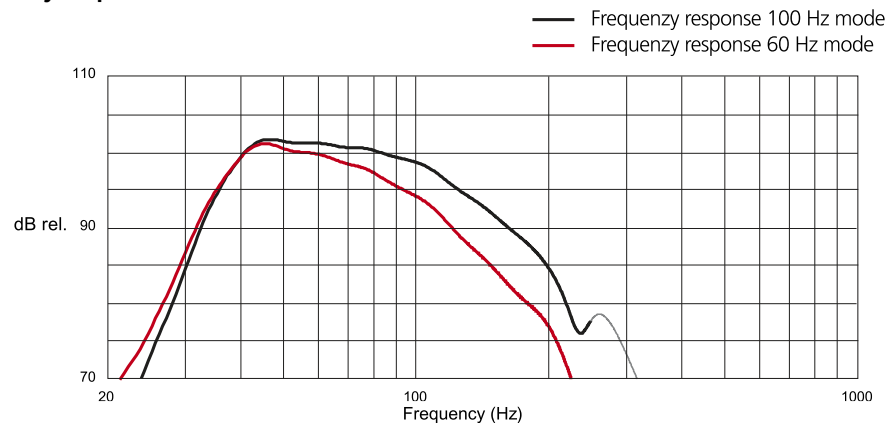


Cardioid



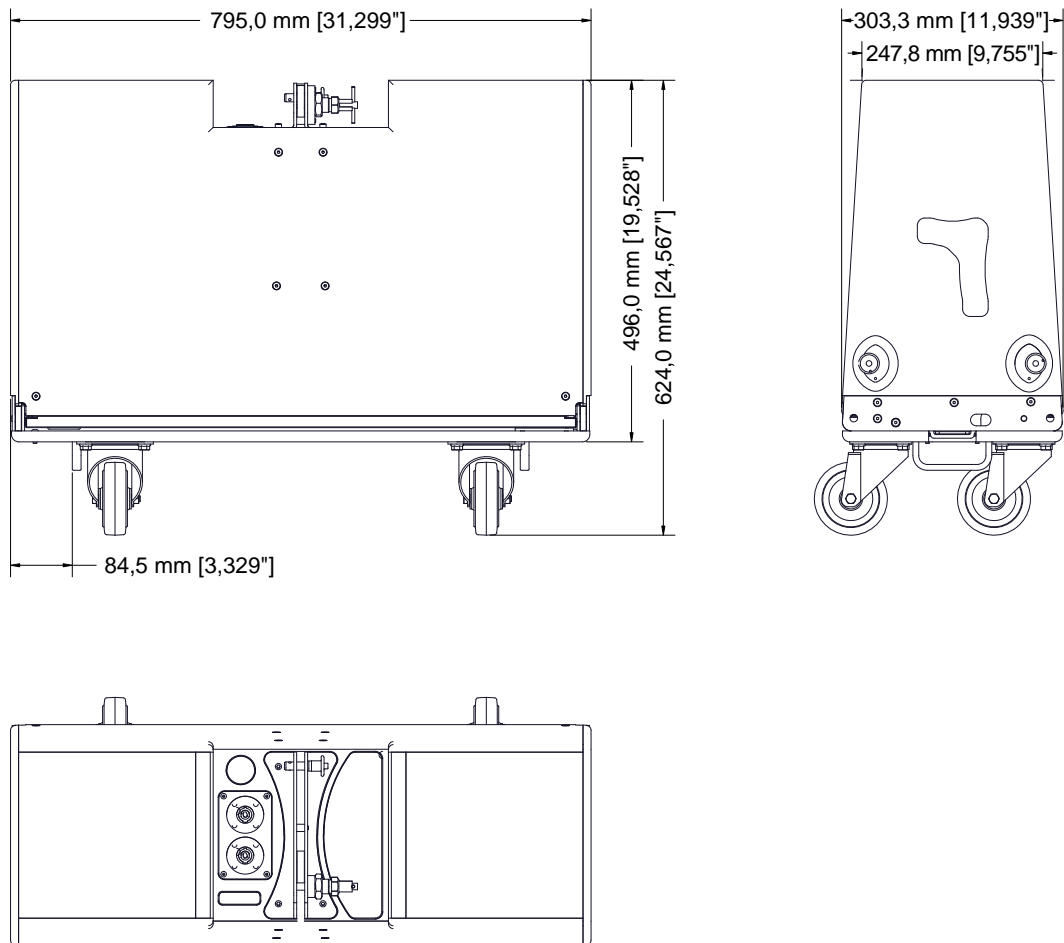
Hypercardioid



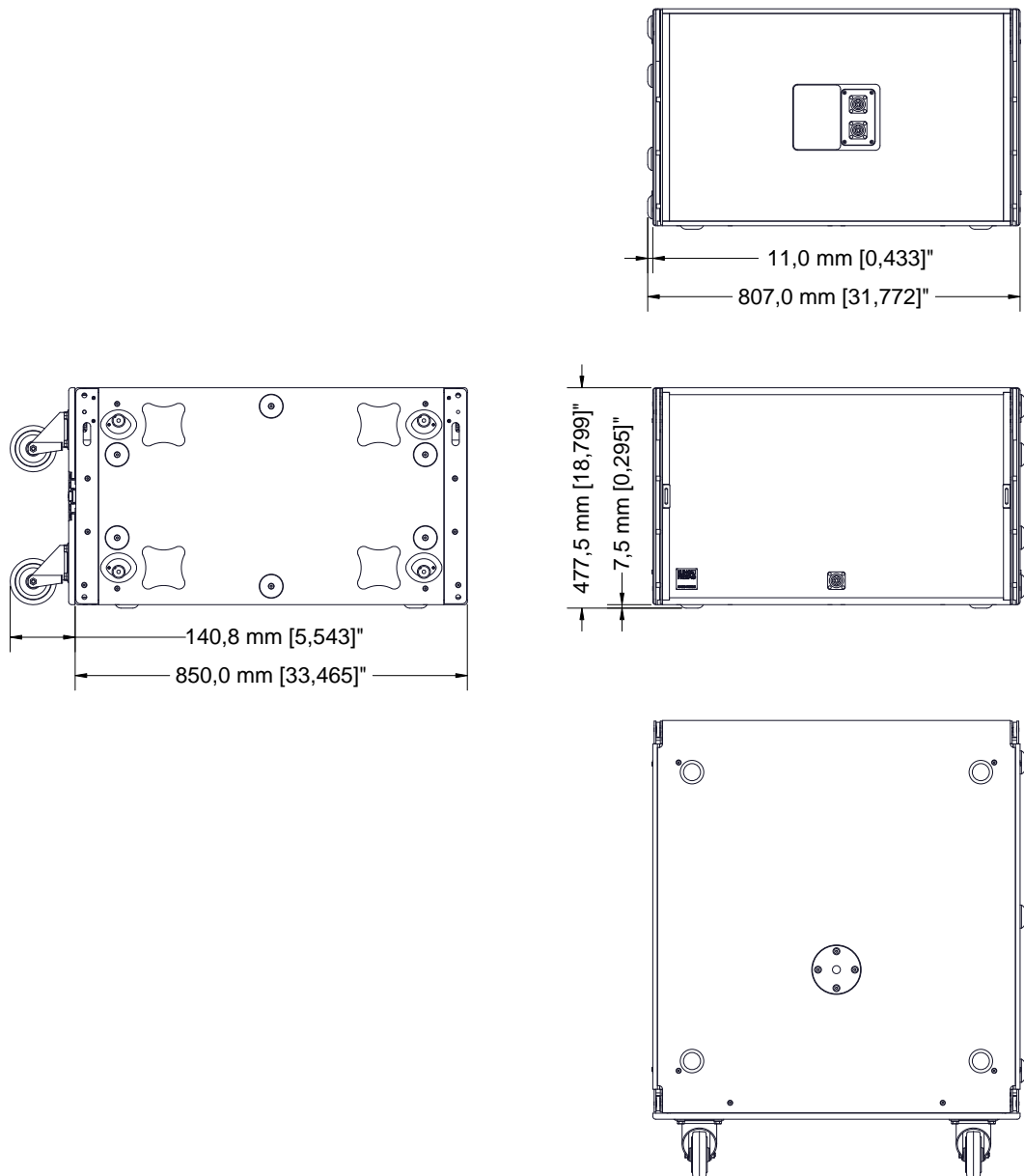
Frequency response

23. Dimensions speaker

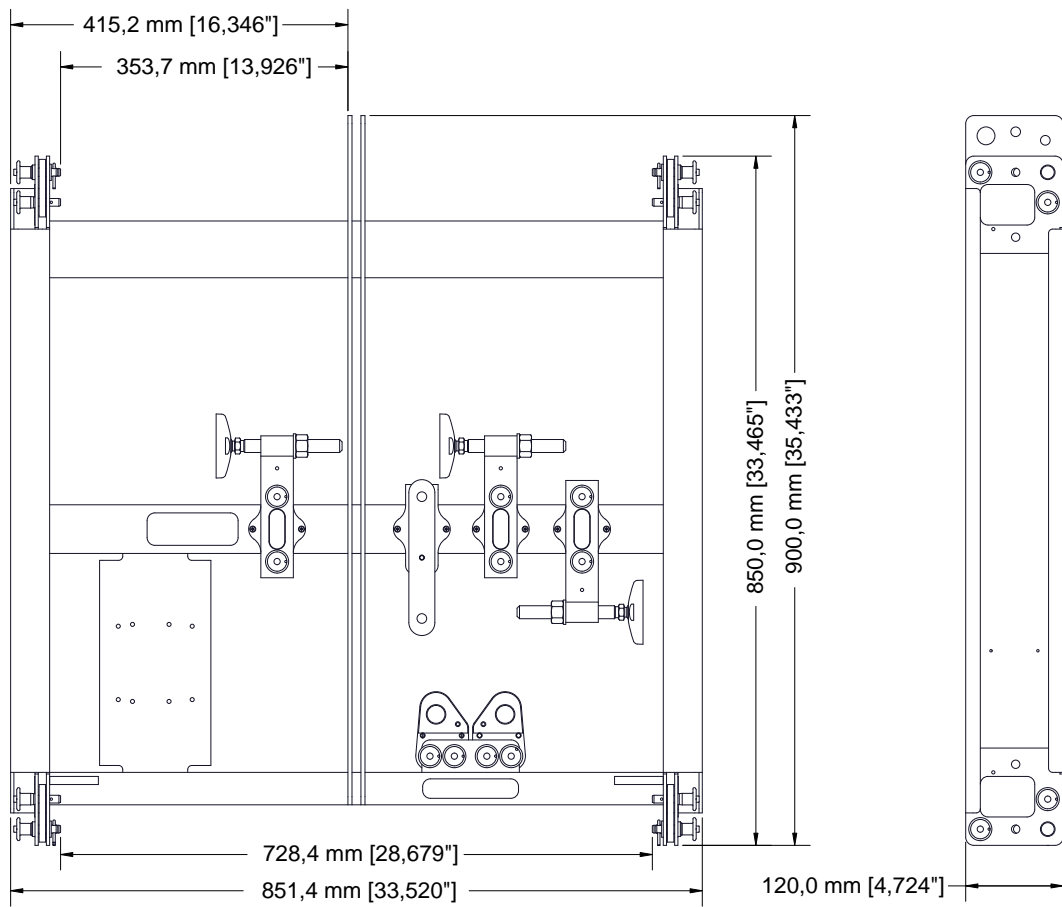
23.1 Dimensions SEQUENZA 10 N/W



23.2 Dimensions SEQUENZA 10 B



24. Dimensions and weight flying frame

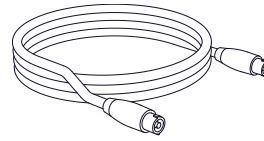


25. Accessories

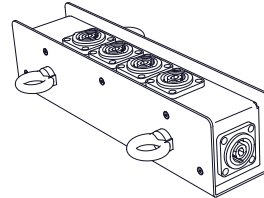
25.1 General Accessories for SEQUENZA 10

SEQUENZA 10 - Prof. Speaker Cable:

8-pin, available lengths: 10m, 15m, 25m (Features: Water resistant connector Neutrik NLT8FX, high-grade halogen-free (8-conductor cable with 4mm wire cross-section ²⁾)

**K&F BOB:**

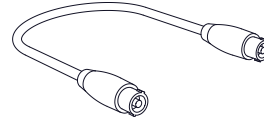
Speaker signal distributor, 2x 8-pin into 4x 4-pin, optionally with 3 x eyebolt M8 for vertical or horizontal suspension.



25.2 Accessories for SEQUENZA 10 N/W

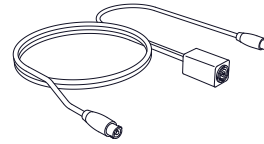
SEQUENZA 10 N/W - Speaker Patch Cable:

50cm patches between SEQUENZA 10 N/W elements (features: water resistant connector Neutrik NLT4FX, high-grade halogen-free 4-conductor cable with 2.5mm wire cross-section²)

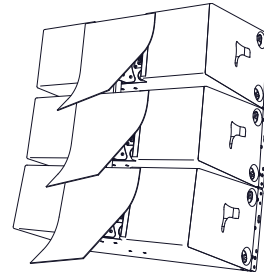


SEQUENZA 10 - Speaker Split Adapter:

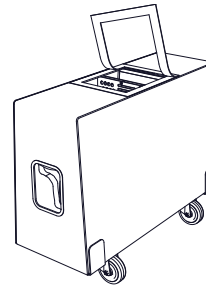
Split Adapter 1x 8-pin into 2x 4-pin for connection of 8-pin cables with 2 x SEQUENZA 10 N/W (Features: water resistant connector NLT4FX or NLT8FX, high-grade halogen-free 4-conductor cable with 2.5mm wire cross-section², cable lengths: 0.5m / 1.5m)



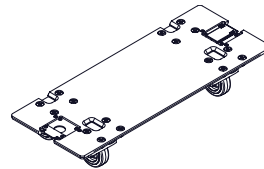
Rain Protection SEQUENZA 10 N/W



Protective Cover SEQUENZA 10 N/W



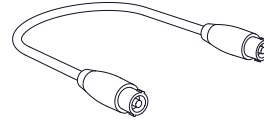
Transport Cover SEQUENZA 10 N/W



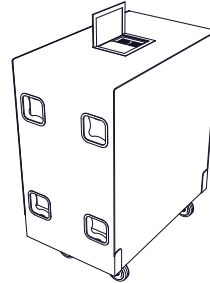
25.3 Accessories for SEQUENZA 10 B

SEQUENZA 10 B - Speaker Patch Cable:

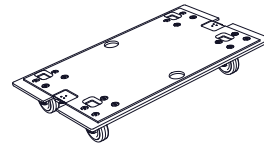
170cm patches for connection between speaker distributor 'K&F BOB' and SEQUENZA 10 B (features: water resistant connector Neutrik NLT4FX, high-grade halogen-free 4-conductor cable with 2.5mm wire cross-section²⁾)



Protective Cover SEQUENZA 10 B



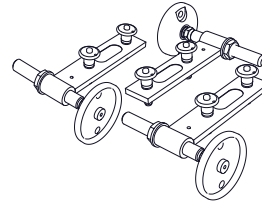
Transport Cover SEQUENZA 10 B



25.4 Accessories for SEQUENZA 10 Flying Frame

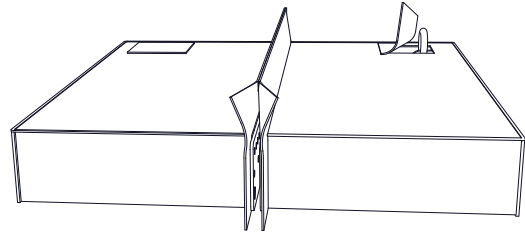
SEQUENZA 10 Groundstack Kit:

Hinged heavy-duty feet for the SEQUENZA 10 flying frame



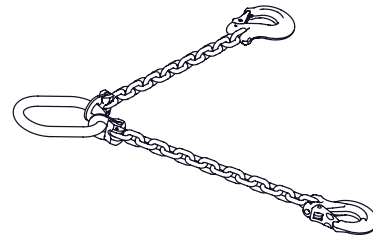
Rain Protection SEQUENZA 10 Flying Frame

Colour: black



Lifting Chain

2-strand, 8mm / grade 8, up to 2t load capacity



Inclinometer), Rieker (without illustration):

- RAD2-70-I2 Dual RAD $\pm 70^\circ$
- 2CS9 STD REL XLR

Supplier: <http://www.riekerinc.com>
sales@riekerinc.com Phone: 001-610-500-2000
Fax: 001-610-500-2002

Rieker Incorporated, 34 Mount Pleasant Road, Aston, Pennsylvania 19014, USA

26. Disposal

26.1 Regulations for Disposal

26.1.1 Germany

It is not allowed to dispose of used electrical equipment as domestic waste.

But please do not dispose of them at official collecting points for recycling either!

All KLING & FREITAG products are plain business-to-business (B2B) products. KLING & FREITAG products labelled with a waste bin sign have thus to be disposed of by KLING & FREITAG alone. Please call KLING & FREITAG at the number stated below if you have a KLING & FREITAG product to be disposed of. We will offer you a straightforward and professional disposal with no costs involved.

If there is no waste bin sign on one of your KLING & FREITAG products, because it has been sold before 24 March 2006, then by law the owner is in charge of the disposal. In this case we will be happy to assist and offer you proper ways of disposal.

Telephone number to call about the disposal of used KLING & FREITAG products: +49 (0) 511-96 99 7-0

Explanation: With the ElektroG (law relating to electrical and electronic equipment and appliances) we have complied with the EU-directive on waste electrical and electronic equipment (WEEE, 2002/96/EC).

From 03/24/2006 onwards KLING & FREITAG GmbH has thus labelled all products mentioned in the WEEE with a sign with a crossed out waste bin and a white bar below. This sign indicates that the disposal as domestic waste is prohibited and that the product has been put into circulation on 03/24/2006 at the earliest.

KLING & FREITAG GmbH has been legally registered as a manufacturer with the German registration office EAR. Our WEEE registration number is: DE64110372.

For the German Registration office EAR we have accredited that our products are soleB2B products.

26.1.2 EU, Norway, Iceland, and Liechtenstein

It is not allowed to dispose of used electrical equipment as domestic waste.

From 08/13/2005 onwards KLING & FREITAG GmbH has thus labelled all products for EU-Member countries as well as Norway, Iceland and Liechtenstein (except Germany) mentioned in the WEEE with a sign with a crossed out waste bin and a white bar below. This sign indicates that the disposal on domestic waste is prohibited and that the product has been put into circulation on 08/13/2005 at the earliest.

Unfortunately the European directive WEEE has been complied with implementing different national provisions of law throughout all member countries, which makes it impossible for us to offer consistent solutions for the disposal throughout Europe.

Responsible for complying with these provisions of law is the local distributor (importer) of each country.

For proper disposal of used products in accordance with these local provisions in the mentioned countries of the European Union (except Germany) please ask your local dealer or the local authorities.

26.1.3 All other Countries

For proper disposal of used products in accordance with local provisions in other than the above mentioned countries please ask your local dealer or the local authorities.

27. Declaration of Conformity (CE)

27.1 CE Rigging System



EC DECLARATION OF CONFORMITY

within the meaning of the EC Machine Directive 98/37/EEC

We: KLING & FREITAG GMBH
Junkersstrasse 14
30179 Hannover
Germany

declare on our own responsibility, that the products:

Kind of equipment: Loudspeaker rigging system

Type-designation: K&F Sequenza 10 Flying Frame (scope of delivery)
loudspeaker K&F Sequenza 10 N (with integrated rigging components)
loudspeaker K&F Sequenza 10 W (with integrated rigging components)

are in compliance with the fundamental safety and health criteria of the applicable EC Directive

National standards and documents applied:

DIN EN ISO 12100
DIN 18800
DIN 4113-1 / A1
BGV C1
BGI 810-3

KLING & FREITAG GmbH
Innovative Sound Systems

Mitglied folgender Verbände



Ust.-IdNr.: DE 115648828 · Amtsgericht Hannover: HRB 52497
Geschäftsführer: Martin Kling, Jürgen Freitag
Stadtparkasse Hannover: BLZ 250 501 80 · Konto 794 996
Deutsche Bank 24 Hannover: BLZ 250 700 24 · Konto 4410601

Junkersstrasse 14 · D-30179 Hannover
Phone: 0(049) 511 96 99 7-0
Fax: 0(049) 511 67 37 94
info@kling-freitag.de · www.kling-freitag.de

27.2 CE Loudspeaker



EC Declaration of Conformity

We declare that the Kling & Freitag loudspeaker systems:

Models: SEQUENZA 10 N,
SEQUENZA 10 W,
SEQUENZA 10 B,

in accordance with the following Directives:

Electromagnetic Compatibility Directive 2004 / 108 / EG

have been designed and manufactured to the following specifications:

DIN EN 55013:2001

DIN EN 55020:2002

DIN EN 61000-6-1:2002

We hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The units comply with all essential requirements of the Directives.

This declaration is made under the sole responsibility of the manufacturer / importer:

KLING & FREITAG GM H
Junkersstraße 14, 30179 Hannover, Germany

Mitglied folgender Verbände



Ust.-IdNr.: DE 115648828 · WEEE-Reg.-Nr. DE64110372
Geschäftsführer: Jürgen Freitag · AG Hannover HRB 52497
Sparkasse Hannover: BLZ 250 501 80 · Konto 794 996
Deutsche Bank Hannover: BLZ 250 700 24 · Konto 4 410 601

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